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EDITORIALS.

PNEUMONIA IS CATCHING.

For generations doctors sensed that pneumonia is a catching, that is, a germ disease, because they found it present pretty regularly in certain houses, in soldiers' barracks, in jails and in schools; they easily traced direct infection in hospital wards; and they recognized epidemics of pneumonia, as of measles or scarlet fever.

But not until recent years was the germ of pneumonia (doctors call it the "pneumococcus") discovered. In this, as in all germ diseases, two kinds of causes have to be taken into account: first, the presence of the germ which is peculiar to the disease and is its specific cause; and then the predisposition, which weakens the body and makes it the right kind of soil for the germ to thrive in.

You will understand this better by taking the example of a family of half a dozen people. One or two among them will come down with pneumonia, whilst the others will escape. But why don't they all suffer, since in the family relation they must all have been about equally subject to the germinal attack?

The reason is that the bodies of those who have come down were predisposed—their resisting power to the germ of the disease was diminished. But in the bodies of those who escaped the organs were sufficiently healthy to triumph over the infection; and those fortunate members of the family had in their blood agencies fighting the pneumococcus and rendering them harmless, and even consuming and destroying them.

These predispositions loom up very large indeed in the doctor's practice; it is a great deal of his duty to find them out and rectify them, if this is possible to be done. The sad thing, however, is that in the dreadful stress of modern life it is impossible always to avoid these predispositions. What are some of them, with especial reference to pneumonia?

Men have a greater tendency to pneumonia than women, because of the greater hardships the family breadwinner has to endure. In the changeable and unsettled months, such as December and March, there is much pneumonia; such months are windy, and dusty, too, and that has a great deal to do with the spread of the pneumonia germs. Cold and wet, especially as to the feet, predispose by lowering the bodily resistance. Then of a cold day a man will go into a stuffy saloon to get himself a hot whiskey punch, and will go right out into the cold again. This will make him sweat and have the effect to open the pores of his skin to the cold; so comes the deadly chill that starts an attack of pneumonia.

But cold itself is not responsible for pneumonia; during the continuous cold of January and February there is not so much of this disease as in the changeable December or March. Arctic explorers never have

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pneumonia—anyway, not in the Arctics—because the germ does not exist in that pure air; but when they get back to civilization, where the germ abounds, they are just as likely as anybody to succumb.

Fatigue very decidedly predisposes the body to pneumonia; men who must work hard through long hours and in inclement weather are very apt to come down with it. Unhealthy conditions of the upper air passages—catarrhs—tend to "lung fever." There are chronic diseases of the heart, the liver, the kidneys and the stomach to which pneumonia is a "terminal infection"; that is, they die of pneumonia, to which those other diseases have predisposed them.

An injury to the chest wall may predispose. Alcoholism is at fault in a sad number of cases; and an alcoholic pneumonia is pretty well-nigh hopeless. There is more pneumonia in the cities than in the country for obvious reasons, but especially because the germ has a better chance to thrive in the city; besides, city people are more irregular in their living and they are overcrowded in ill-ventilated tenements.

Well, then, how are we going to prevent pneumonia? In the first place we have to remove the predispositions. That is an easy thing to write down, but a mighty hard thing to do. In this workaday world when the struggle for existence is so intense, it is impossible to remove all the factors that weaken the body and lay it open to the attacks of germs. As for the germ itself, we must act pretty much as we should against the germ of consumption. The sputum is disinfected; those who nurse pneumonia cases must keep their mouths and throats very clean by means of tooth brushes and gargles; they must wash their hands very often and then bathe them in disinfecting solutions. After the patient's recovery or removal his house is disinfected throughout. Those who need not be with pneumonia patients had best not visit them, though, of course, there is no occasion for fright, as if they had the plague. However, people worn out or otherwise susceptible to infection should not unnecessarily expose themselves to pneumococcus infection.

MIND AND MATTER.

"WHAT'S mind? No matter: What's matter? Never mind." This is Punch's system of philosophy; and it has at least the merit of being incontrovertible—a merit almost absolutely unique in the history of thought.

The relationship of the mind to the body has been no doubt as old a theme for speculation as the nature of mind itself. In fact, until we can discover the nature of mind, and can tell what matter is,—until we have explained these ultimates,—we cannot positively solve the puzzle of mind and matter. It is evident to the man in the street that the mind impresses itself on the body; and the modern psychologist has shown how the body reacts upon the mind. However, in philosophy, there have been from time immemorial two camps—the metaphysical and the materialistic; and those in these camps have in ages past visited dreadful sufferings upon one another and have fought most bloody wars. Then between these two camps there are those who have stood for an interaction, a reciprocity, a parallelism of mind and body.

Up to our era the metaphysical viewpoint has generally prevailed. The mind has been everything, as beautifully expressed by Edmund Spencer:

"For of the soul the body form doth take,
For soul is form, and doth the body make."

And by Schopenhauer: "The spirit has all matter to choose from." And yet the metaphysician's view is by no means invulnerable. How is it, asks the material-

ist, when the body is for a few minutes deprived of oxygen, when a lethal dose of poison vitiates the life sustaining blood, when a blow stills forever the body's conscious processes; what then has become of your "all-potent mind?" The body remains with all its elements, organs, tissues, processes as before; but there is no longer mind to direct the body's destinies. It has been destroyed by the agencies which have been inimical to the body's functions. Has not, then, this mind been merely one of those destroyed functions, like digestion, bile formation and heart action

And so the materialist holds that life is essentially and merely a psycho-chemical process; that such terms as mind, soul, spirit and the like are only ideas conditioned upon material entities and produced by the brain and nervous system, the physical organs by which mind is evolved.

But here again any philosopher can see that the materialist has bitten off more than he can chew. He leaves the scientific thinker (what is philosophy but the sum of the sciences, or the "knowing" of the cosmos) utterly unsatisfied. The materialist tells us that the mind in its diverse aspects, (reason, intellect, will, emotion), is but the resultant of purely materialistic conditions. The whole thing, he tells us, started in this way: The beginning of life, the sentient existence, was when the sun first shone on and vivified a morsel of primordial protoplasm, in consequence of which that morsel took on a sort of unicellular, ameboid existence. Thence has been evolved, step by step, aeon after aeon, through various progressively complex stages, the human organism, the most highly "evolved" that we know of; and by and by there is going to be a superman, who will go us one better—and all out of that serrified morsel of protoplasm, and by processes purely psycho-chemical.

The trouble here is that the explanation how that bit of protoplasm became sentient is not complete. Like Ko-Ko's narrative, it is bald and unconvincing and lacks verisimilitude. How did the protoplasm get there? one is entitled to ask; and how did the sun come to shine? How did the sun get there?

The materialist may answer that millions of years ago there existed atoms which under the pressure of gravitation became concentrated into nebulæ, whence were evolved suns, whence in turn planets were thrown off, upon which certain accumulations of atoms (which we now call matter) took the molecular form of protoplasm, upon which the sun acted. Very well, then; but how did those primal atoms which became nebulæ come into existence?

Then the materialist may answer that these primal atoms were evolved out of space-filling ether. To this one may again respond, with tiresome persistence, and like that insatiable little boy whose curiosity is ungovernable, then how did ether get there? And so on, just as far back as the materialist wants to go.

In short, the real riddle of the universe is as inscrutable to the materialist as it is to any one else; the latter has not solved for us the real mystery of mind.

The materialistic viewpoint was admirably set forth by Professor Shafer in his address on The Origin of Life; in controversion of this came Dr. J. S. Haldane's superb summing up in his address on "Mind and Body": The relation of mind to body is not that psychical phenomena are mere accompaniments of physical processes in the body, nor that there is an interaction of body and an incorporeal mind (parallelism or epiphenomenonism); but that body is conscious personality looked at incompletely or abstractly. In other words, conscious personality is the truth of the body and its environment; and the physical causes, which seem at first sight to determine the mind, are only superficial appearances. This is merely another way of saying that however little we understand it in detail, our world is a spiritual world. We are not thereby committed to the absurd position that the personality of the universe is a man's own individual personality, coming into existence at a certain date and disappearing again at a certain other date. Just as biological facts have taught us that the life of each individual cell or organism is only part of a wider life, so have ethical and religious facts shown that the individual personality in its full realization is the expression of divine personality, which alone can be the ultimate truth of all existence. The individual personality, including his ideas of the world and his ideals of conduct, is evidently a product of his time, the expression of a wider personal life, which he only realizes in living it and living it whole, confident in his participation of it and ready to give up his mere individual interests, or even his life itself, should his duty lead him to do so.

CREMATION.

PRICE COLLIER, who died on the Island of Funen, desired his body to be cremated and this was done in Copenhagen. Cremation of the bodies of those who have died is preferable to burial. Emerson, in the diary of his European trip, noted that the French have engraven on the tombstones of their dead, "Here Lies—"; our American custom, "Here Lies the Body of—," is better, being more consonant with the ever impressive "there is a natural body and there is a spiritual body," in the service for the dead. In considering the comparative merits of cremation and burial the beautiful Pauline sentiment just quoted should go far to remove pious prejudice to incineration. And is not, indeed, material life, from the cradle to the grave, but a slow oxidation, a continuous process of cremation? There is still a vestige of the theological view that the material body should remain whole until the last trump, that it may not appear otherwise in the presence of its Maker. But it is inconceivable this could be so of any body that has not been more than several decades in the grave. Yorick's skull becomes hopelessly intermingled with the spine of an erstwhile neighbor, the thigh bone of another. The gruesome idea need be no further pursued. On the other hand the ashes of the dead could be perpetuated so long as any memory of the life representing it would endure; whilst the spiritual body may be conceived to remain whole perpetually. Will not then the reverent, or taking thought conclude the columbarium to be preferable to the grave? Cremation obtained among many ancient peoples. Especially did the Greek poets find spiritual grandeur in the concept of the soul arising from the ashes of the dead (the natural body) into the empyrean, to dwell thenceforth with the stars. Cremation was indeed an honor denied the bodies of such as had been suicides, those who had been struck by lightning, and others deemed unworthy. Should religious objection to cremation be removed there would remain that of the facility it is assumed to afford murderers and other criminals for the concealment of their crimes. But adequate safeguards can be—indeed, are—legally established. In England no one may be cremated until two independent medical certificates have been given. In the event of doubt ample provision is made for post-mortem examinations. Thus there can remain no other reason why cremation should be preferred to burial; whilst there are peculiar objections, besides those mentioned, to burial—a slow process, most repugnant to the imagination, and inspiring, as it certainly did under the asceticism of the Middle Ages, much occasionless horror of death. How dangerous burial is to the living, especially in large cities and where graveyards are contiguous to habitations, all health authorities are fully aware. If cremation should become customary—there are now many crematories in civilization—only the speculator in cemeteries need take umbrage: for there is big money in cemeteries; probably nothing better going with the added likelihood of being able to evade taxes. (This is not, of course, to reprehend many noble institutions.)

MEDICAL RESEARCH habitually strives to arrive at something beyond abstract truth. It seeks to promote public and private safety and happiness and the material welfare of society. Its devotees have in mind the discovery of means of remedying misery or warding off calamity; and they know that whatever contributes to health and longevity in any community or nation contributes to its industrial prosperity; so that they are justified in hoping for results from their work which will promote human welfare.—*C. W. Eliot.*

THE HUMAN BEING is a part of the whole of nature and cannot be understood without it. What is wanted is a satisfactory general view of the process of the universe. Possessing this, we shall find the key in our hand which will open the most secret recesses of the art of medicine.—*Gomperz.*

THE LUNGER IN THE SOUTHWEST.

THE National Association for the Study and Prevention of Tuberculosis has strongly advised physicians against sending their patients ill of this disease to the southwestern part of our country, when they are indigent, or are in danger of becoming so, or are in the advanced stages of consumption. This is done today not nearly so much as formerly, nevertheless even now the practice is deplorably frequent. It is most unfair to burden the people of Colorado, New Mexico, Southern California and Western Texas (who have generally been most hospitable and most charitable in the premises) with a load that has thus far been greatly beyond their communal resources to meet. And the condition of "the lunger in the West," who has gone thence without sufficient means to last him through his cure, or who was incurable to begin with, is pitiable almost without precedent in the history of the sick.

The impression is erroneous that our Southwestern climate is essential to a cure; high altitude, dry air and sunshine are indeed salutary for most consumptives, but not so for all. True, many recoveries have been achieved in these regions, but also very many deaths have come to pass, as anyone may satisfy himself who observes a federal map showing the comparative tuberculosis mortality by States. Colorado is thus indicated to have a high consumption death rate, the sole reason being, of course, that many consumptives about to die under any terrestrial circumstances whatever, have emigrated to that State. One sees here how often and how much the physician in the East has been at fault, his diagnosis of incipient or early tuberculosis turning out afterward to be one of moderately advanced or even far advanced consumption.

High altitude, dry air and constant sunshine are not essential to the cure of tuberculosis; any other climate in which life is lived outdoors, in which the febrile patient will rest, in which none will exercise violently, and where the patient will submit implicitly to discipline will be as salutary. At least as many cases, number for number, have been cured in the cold and cloudy Adirondacks, with their abundant rainfall, as in the Arizonian desert or the Californian paradise. The essential, we repeat, is obedience to the prescribed regimen, which obtains in a well-conducted sanatorium, where the patient is ever under wise and inexorable supervision, unable for the time being to break the rules upon the obeying of which his very existence depends. It were well indeed if every tuberculosis patient could enjoy at least three months in such an institution in order to comprehend what such discipline means, how beneficent it is, and to acquire the cure habit. Unfortunately this is for not one-tenth of the tuberculous; the rest must be treated in their homes and by their family physicians. And the latter ninety and more per cent will do well, and in many instances be cured or have their lesions arrested if they are obedient (how few, alas, are) and if their physicians be masterful.

WHO FIRST USED ETHER IN SURGERY?

WHO was the first anesthetist—that is, who first used a drug for the relief of pain in a surgical operation? The priority has been supposed to lay with Dr. Morton, of Boston. But Horace Wells was nearly two years ahead of Morton in the use of ether. And just two years and eight months before Wells, in a small town in Georgia, Dr. Crawford Williamson Long, on March 30, 1842, removed without pain a tumor from the neck of James W. Venable, who was during the operation under the blessed influence of ether.

Dr. Long repeated the feat in July of that same year, and again in September of the next year and again in January, 1845. He didn't realize how wonderful was his achievement and how it was destined to revolutionize surgery. And he made no report of his experience until 1849, when his account was called forth by a report of Morton's work. They put up a medallion

to Long in the University of Pennsylvania on March 30 last, the seventieth anniversary of his use of ether as an anesthetic.

It is a curious and a very encouraging thing to realize, that any great discovery is generally the outcome of the genius and the labor, not of one man alone, but of many. After all no one ever does things in vain. Something somehow comes of his industry; and it may be, in quite unexpected ways. After all, there are few of us the world could do without.

For example, Lister's great principle of asepsis, which is the cornerstone of modern surgery, was based on the attempt of Pasteur to find out why a certain fungus affected the two varieties of tartaric acid differently. That was the beginning of the germ theory, and the foundation of the whole modern treatment of disease by vaccines, serums and antitoxins. Another thing—ether stood on chemists' shelves three hundred years, while the agonies of injury and disease went on unalleviated. Humanity had to wait until a man of genius and sympathy, such as Long was, should make the right application of it.

In remembering with gratitude Long, Wells and Morton, we must not forget Sir James Simpson, who at about the same time applied chloroform in Scotland for the relief of human pain. This merciful discovery had to meet a good deal of bigotry. For instance, when he was employing chloroform in childbirth, a clergyman declared his procedure a "decoy of Satan, apparently offering itself to bless women, but in the end destined to harden society and rob God of the deep earnest cries which arise in time of trouble for help." What cruelty under the guise of religion!

And while we are praising Long, we should record debts of gratitude to other great Southern physicians—McDowell, who did the first ovariotomy; another doctor from the South invented an ice-cooling machine, because he wanted to cool his fever patients; and who had not heard of Sims and Emmet, both Southerners, who developed gynecology in America?

THE TEMPLE: A POEM.

By Rabindranath Tagore.

The Bengali Poet to whom was awarded the 1913 Nobel Prize for Literature.

With days of hard travail I raised a temple.
It had no doors or windows, its walls were thickly built with massive stones.
I forgot all else, I shunned all the world, I gazed in rapt contemplation at the image I set upon the altar.
The night there was everlasting, lit by the lamps of perfumed oil.
The ceaseless smoke of incense wound my heart in its heavy coils.
Sleepless, I carved on the walls fantastic figures in mazy lines, bewildering — winged horses, flowers with human face, women with the curving limbs of a serpent.
No passage was left anywhere through which could enter the song of birds, the murmur of leaves, or the hum of the busy village.
The only sound that echoed in its dark dome was my own chanting of incantations.
My mind became keen and still like a pointed flame, my senses swooned in ecstasy.
I knew not how time passed till a thunderstone had struck the temple, and a pain stung me through my heart as it were a snake of fire.
Suddenly a gap yawned in the stony walls, the daylight streamed in, and voices came from the world.
The lamp became pale and ashamed.
The carvings on the walls, like chained dreams, looked meaningless in the light, and vainly tried to find a hiding place.
The closed walls opened in my temple.
I looked at the image on the altar.
I saw it smiling and alive with the living touch of God.
The captive night spread its wings and vanished.

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ORIGINAL ARTICLES.

THE PROCEEDINGS OF THE SECOND ANNUAL MEETING OF AMERICAN ASSOCIATION FOR PROMOTING HYGIENE AND PUBLIC BATHS IN BALTIMORE, MD.*

A CITY DEPARTMENT OF PUBLIC BATHS AND GYMNASIA.

By William H. Hale, Ph.D., Superintendent of Public Baths of Brooklyn, N. Y.

At a recent meeting of the directors of this association it was stated that the Public Bath house at Carmine Street, New York City, has activities conducted under three different controls—the public baths in the lower part of the building, controlled by the President of the Borough of Manhattan, the gymnasium above these, by the recreation commission, and the roof garden over all, by the department of education; and this condition appeared so anomalous that I was requested to prepare this paper on a City Department of Public Baths and Gymnasia.

The situation existing in my own city has brought this matter home to me. At the time when the great congeries of municipal town and village governments was consolidated into the present City of New York, with a complex government wherein the Mayor exercises certain powers over the entire municipality, and the five Borough Presidents control, each in his own borough, such matters as the charter assigns to them, there was not then a free public bath in the entire city, except the floating baths, which were stationed along the river front in summer.

Thanks to our President, Dr. Simon Baruch, however, who had fought for the public rain-baths since 1890, one bath was already planned for the Borough of Manhattan. The new charter provided that the Borough Presidents should have charge of the public baths, but laid down no details of administration. The result was that they were placed in the bureaus of public buildings and offices in the several boroughs, a most illogical arrangement, since there is no obvious reason why this business, any more than any other, should be administered by this bureau. Of course, all the governmental business is done in public buildings.

Side by side in the two great boroughs of Manhattan and Brooklyn has grown up a great system of interior public baths, twelve in the former borough, seven in the latter, and one each in Queens and the Bronx, besides the great municipal bath for seashore bathing at Coney Island.

The inevitable result is lack of homogeneity in some important details. For instance, Brooklyn has always furnished soap and towels to bathers, charging 1 cent for soap and 1 cent for use of towel, 5 cents for bathtub, including soap and towel. Manhattan started with this system, but soon abandoned it, and now, near most of the Manhattan baths, may be seen signs of thrifty tradesmen who offer to supply soap and towel for 5 cents. Public appreciation of the convenience of our Brooklyn system is shown by the steady growth of cash receipts year by year, till in 1912 these amounted to $21,655.10.

But notwithstanding the great excess of work devolving on our attendants by handling the soap and towels, and the resultant cash, the attendants in charge of the Manhattan baths receive higher pay, viz.: $1,050 per year; while ours get only $900, which naturally leads to discontent and a feeling that injustice is done.

A recreation commission has been appointed very recently. All the new bath

* The publication of these Proceedings was begun in THE GAZETTE of December, 1913.

houses in Manhattan have been provided with gymnasia—but not one in Brooklyn; yet, as I have already stated, the gymnasia are under separate control. Why should this be? The great factors of public health —bathing and exercise—are now generally combined in our colleges and universities, and Christian and other voluntary associations. They seem naturally to go together and to supplement each other.

Swimming may well be considered the connecting link. It is usually considered to be the best kind of exercise.

A striking result of the lack of harmonious development of our bath system in New York is the great inequality in providing swimming pools in our two great boroughs. Manhattan has two, and is constructing four more in existing interior baths, besides planning another in the new bath to be built in West 28th Street; whereas Brooklyn has only one, and no present outlook for another.

In the twelve years which have elapsed since the opening of the first bath the City of New York has developed the largest system of shower baths in the world; and now has also the great seashore bath house at Coney Island, which, however, is really only a house for bathers to dress and undress in.

The enormous aqueduct from the Catskills will next year bring to the city such an ample water supply as to permit and encourage almost unlimited expansion of our bathing system; even as the great aqueducts to ancient Rome stimulated the building of the baths which were the wonder of the world.

Surely all these signs indicate that our municipal baths have become too important to remain longer as a mere vermiform appendix to the Bureau of Public Buildings and Offices, and are well entitled to be organized either as a separate department of the city government or as bureaus in the respective boroughs.

And this department or these bureaus should have a wider scope than bathing. The cleansing of the body should go hand in hand with its proper development and culture. Why shall we not profit by the experience of schools, and colleges, and Christian and other voluntary associations, and in our civic work combine the baths and the physical culture of the body by establishing baths and gymnasia in the same building and under the same control?

The awakening of public interest in the baths is world-wide, as shown by many signs, notably the holding at The Hague last summer of the First International Conference on Public and School Baths, and the organization last May at New York of the present Association, which already during a single year has grown to the proportions indicated by this large and enthusiastic meeting.

A notable sign of the times is seen in the remarkable policy which has within the past few weeks been adopted by a great firm of manufacturers, Messrs. Harrison Brothers & Co. of Philadelphia, manufacturers of paint, who have inaugurated the system of paying their employes fifteen cents for every bath which they take in the model baths provided for them, a policy which a press report stated would cost the firm more than $52,000 a year if every employee bathed every day. This may be exaggerated, but the amount of cash payments would certainly be enormous, in addition to the cost of equipping and maintaining the baths.

Surely incidents like this should stimulate our best thought and endeavor to provide for the people the best facilities for bathing and physical culture that the state and the municipality can furnish.

It's all right to bear other people's burdens, but don't come home loaded every night.

Begin at the bottom and you won't have so far to fall.

"We are all of one mould, but some of us are mouldier than others."

"As a leaky hot water bottle in time of need, so is a fond woman who telleth thy secrets; her folly exceedeth her comfort."

THE AMERICAN PUBLIC BATH, ITS LOCATION, PLAN AND CONSTRUCTION.

By August P. Windolph, New York City, N. Y., of the Firm of Messrs. Werner and Windolph, Architects.

From the earliest records when the Public Bath was first introduced in this country (1850), and almost to the close of the last century, but little attention was given to the subject of bath sanitation. Our American municipalities were either indifferent, or at any rate did not deem it imperative to establish a system of Public Baths. A few isolated buildings of the river bath type, poor and crude imitations of European models, were in operation; also some primitive buildings equipped with shower baths.

To better appreciate the conditions at this time some statistics taken in New York and Philadelphia are interesting. In the former city ninety-six per cent. of the people of the tenement sections were entirely unprovided with bath facilities, and Philadelphia showed eighty-two per cent. unprovided for; in one section containing 255,000 people only 300 had proper bathing facilities. The cities of the second class and towns were but little better off.

England had long before this by legislative enactment made it mandatory to establish these buildings as an integral part of the modern social system. In the early nineties Dr. Simon Baruch, our worthy President, started a movement that may be described as a new social spirit, or civic Renaissance, introducing the rain or shower bath.

It is within the last decade that bath building has shown some systematic development. Each municipality heretofore approached and solved the problem after its own fashion, some following inapplicable foreign types, but generally, and with more unsatisfactory results, the direction of a board of local improvement.

The customary European practice of choosing a site of sufficient dimensions to furnish most of the bathing facilities on one floor is not desirable in this country, where compactness and facility of operation are essentials, because of the fact that our public funds do not permit a large initial expenditure for the acquisition of the site. Here baths are usually located in tenement sections, where property is held at a high figure, and they must therefore be economically planned.

No public buildings offer so many difficulties in the matter of selection of site as the public bath. It obviously should be located in the most densely populated section, but such a location does not necessarily imply its success, for the character of the population may change, as well as the character of the buildings. Frequently tenement houses are replaced by commercial structures, or there may be an influx of some foreign element which refuses to patronize the institution, and thus handicapped the bath may prove a failure. On the other hand, some of the native-born population have an aversion to the public bath patronized by foreigners. One of the New York City baths is situated on the dividing line between colored and white populations, and the problem of keeping order and superintending the institution is for this reason a most difficult one. If this bath had been placed in the heart of the white or colored section its value to the community would have been greatly enhanced.

The site for the bath should be easily accessible and convenient to a public school; should not be too near a river, particularly if river bathing be available, and, if possible, should be located on a corner, to allow for exits and entrances on two streets, thus separating the sexes. These conditions must be carefully weighed in selecting a site. An important matter is the disposition of baths at proper distances from each other, and in the most populous sections it would seem desirable to locate them not more than half a mile apart. A series of small buildings equipped with showers grouped around a large central building,

equipped with a pool as well as showers, would be an effective arrangement. This would differ from the English idea in that the minor establishments would be considerably smaller and the buildings more closely grouped. In solving this problem lack of co-operation is often the case, which is equally manifest in other matters of civic improvement in this country. This may be due, in a measure, to the complex character of our population, and to the size of a country as vast as ours, which is in a state of rapid development, but above all to the lack of systematic records and comprehensive statistical information on the subject of baths. This last factor has been of great assistance to Germany in developing a system of baths properly proportioned to the needs of her people. Foreign cities of the first class are often equipped with small bath buildings, but in this country the size of the buildings indicates fairly accurately the size of the city. We have had the advantage of the experimenting on the part of foreign authorities and have profited by their mistakes, and while our bath system, even up to the present day, is in a very experimental and indeterminate shape, some of our individual buildings are, as regards sanitation and fittings, equal to the European models and are often superior in simplicity of plan and merit of construction.

It is well to bear in mind, however, that we have not the difficulties of providing facilities for various classes of bathers, and the elimination of steam, hot air and vapor baths has further simplified the problems. The elaborate entrance halls, staircase and rooms devoted to various purposes other than bathing generally found in the foreign bath play a comparatively small part in the municipal bath establishments in this country, the desire being to provide the largest proportion of units possible devoted solely to bath purposes.

For convenience we may classify public baths into two main groups: the Interior Baths, including those that are enclosed and which, as a rule, provide facilities for all-year bathing, and a second group, including Seashore and River Baths, those open to the air, which are used only during the summer months.

There are three distinct types of interior baths: those equipped with the showers; those equipped with the pool; and a type combining the other two.

The building equipped with the shower has up to the present time been the most favored by our municipalities. Its many advantages of economy, practicability and simplicity have appealed to the authorities, and the majority of the cities of this country having public baths have at least one building of this type. The small city bath equipped with showers has been greatly favored by the German and other continental authorities. In the cities of the first class the capacity of these buildings rarely exceeds fifty unites; the larger buildings invariably combine other forms of baths with the showers. In this country some of our largest institutions are equipped solely with shower baths, with a capacity varying from seventy-five to two hundred units. There are excellent shower baths in many of our cities, and in New York we have:

The John Jay Bath;
The Rivington Street Bath;
The West 41st Street Bath;
The East 11th Street Bath;
The Carmine Street Bath;
The East 54th Street Bath;
The Rutgers Place Bath;

And the Montgomery Street Bath at Newark, N. J.

The Rivington Street Bath is the only public bath in the city where the laundry has been introduced, which has not proved successful, and the allotted space has recently been changed and is now used for showers. On the other hand, in Baltimore, Buffalo, Cleveland and Boston those baths which are equipped with laundries have had fairly successful results.

The second type of the Interior Bath, in which the pool alone serves the bathing purposes of the institution, is but rarely used in this country. The only instance where this system has been adopted throughout a large city is in Philadelphia. The baths are not of a strictly modern type and are comparatively inexpensive buildings. The plan of the pool is modeled after the English type, with the dressing compartments directly off the pool runway; adjoining the waiting-room is a primitive form of a preliminary cleansing bath arranged in an alcove. There are a few other isolated examples of the pool bath type which are similar in general plan and arrangement to the Philadelphia baths and call for no special comment.

The third type, the combination of the pool and the shower bath, is rapidly grow-

ing in favor in this country, and will eventually displace the other two forms, except in those instances where it is desirable to provide baths of very small capacity. One of the earliest examples of this type in this country is the Municipal Bath at Brookline, Mass. The pool bath units, as compared to the showers, are proportionately much larger, the pool bath providing more than 80 per cent. of the capacity.

The West 60th Street Bath in the City of New York is still another variation of the third type. In this building the dressing-rooms are placed on the balcony in the plunge room, directly off the waiting-room level. This arrangement separates the dressing-rooms and runway from the pool runway below, and the bathers are under direct control at all times.

Staircases on either side lead from the balcony directly into the preliminary cleansing room below, which is separated from the plunge room by a guard rail and gate, at which the attendant stands and controls the bathers. This arrangement allows the undressing, preliminary cleansing and bathing to be supervised from any point of control in the plunge room. Special staircases in the waiting-rooms lead to the second-story shower halls, which have a capacity slightly less than that of the pool.

The arrangement of the cleansing room off the plunge should receive more attention, as the success of the pool bath in many ways depends upon it. Ease of supervision, with foot and shower baths, the arrangement of the toilets so as to be accessible for the bather on the way to the pool, are some of the prime factors that should be considered.

Some other examples of this type are the East 23rd Street Public Bath, New York City; the Cabot Street Bath, Boston, Mass., and the Orange Street Bath, Albany, N. Y.

The open-air baths of the second group form a valuable auxiliary to the interior or all-year baths; there are three types, the River, Seashore, and Park.

Although the River type was the earliest introduced in America, our municipalities have given, as a rule, but scant attention to this form of bathing, and the river bath of to-day shows but little improvement over early experiments.

The reconstruction of the river baths, arranging them so that the water is confined in a basin and filtered, is now being investigated and may be adopted. This is problematical, however. A better plan would be to construct the baths on recreation piers on the river fronts. These could then be planned as Interior Baths for use throughout the year.

Occasionally we find Shore Baths with bathing and dressing facilities entirely enclosed as in the interior type. This is true of the Sutro Baths near San Francisco, situated on the shores of the Pacific, and which consist of no less than six pools, entirely enclosed with glass.

Another example of the Seashore Bath with the dressing and shower facilities enclosed, but with the open sea bathing, is the State Bath at Revere, Mass.

In the Park Baths we find part of the facilities available during the winter months, and, as a rule, gymnasiums combined with them.

Boston has a few examples of this type and a few isolated ones are found in cities of the second and third class. It is in Chicago, however, that we find a complete system of Park Baths in operation, and, while strictly speaking, they are of the open-air type, they suggest the interior baths, because, in addition to their provisions for bathing, they have an enclosed gymnasium, as well as lecture and reading rooms, for use during the winter months. These baths are situated in the densely populated sections of the city, and their total yearly attendance is in excess of the interior baths.

Chicago has operated this system of park baths for only a few years, but has amply proved that they are, in conjunction with interior baths, a valuable asset for all large cities, tending to the elevation of both the moral and physical well-being of the community.

The ideal plan for the Public Bath Building for American cities is essentially a modern problem and must be solved to satisfy exacting and varying conditions. Ancient types offer valuable suggestions for the various forms of bathing and for arrangement of the plant; they are not adaptable as a whole for our purposes. The exterior of the bath should express the purposes of the building. Excess of ornamentation increases the initial cost, and a pretentious façade repels the poor and defeats the true purposes of the building. The problem is in many ways similar to that of the hospital; fundamentally it must be treated from the standpoint of sanitation, as the mission

of the bath is to elevate the standard of cleanliness and public health.

The plan above all must be simple in general arrangement, providing liberal openings for light and air, as the best results are not obtained by use of artificial light or forced ventilation. The work of the institution is greatly facilitated where the corridors are made direct and in easy communication with the entrance halls. Ease of supervision is an important factor. All parts of the building should be accessible, so that if any part of the equipment is damaged it may be quickly located and repaired.

To facilitate the circulation and to provide for the continuous movement of large crowds in the summer season the waiting rooms should be planned of ample capacity, but not to encroach on the bathing hall space. A fair ratio would be about 25 per cent. of the total ground floor plan, and in case the building has a second story of showers this proportion of waiting-room space should be slightly increased. It is customary to give to the men's waiting-room about two and a half times the space allotted to the women, this being the average relative attendance of the sexes.

The staircase should be arranged in the waiting-rooms so as to separate the lines of bathers, and should have easy runs and of ample width. The superintendent's office should be placed between the men's and women's waiting-rooms and should be accessible to every part of the building, either by speaking tubes or telephones.

In considering the form of bath to be used, what proportion of shower, tub and plunge units should be planned for in order to insure the best results, the problem often becomes very complex, and must be solved for the locality in which it is to be built.

The form of valve in use to-day in shower compartments does not control the water consumption, and as the valves are under the bather's own control they are frequently left open, causing considerable loss of water. Another objection is the difficulty of properly supervising a large number of bathers who crowd in the compartment and thus destroy its principal virtue, the isolated bath. The tub bath has been objected to from the standpoint of sanitation, as it is the most difficult of all fixtures to keep clean, and, owing to the space required and the great amount of water consumed, can no longer be seriously considered in bath equipment. The principal virtue of the shower bath is its sanitation.

Just what part the pool is a factor in the general public health would be difficult to determine, but the consensus of English opinion is that a pool properly constructed should be incorporated in every bathhouse. In Germany the Society for Public Baths recommends Pool Baths where funds are available. As to its economic value, the initial cost of the pool is less than any other form of bath; furthermore, the water consumption, being under absolute control of the superintendent, is much less than in other forms of bathing.

In this country a recent test in a Public Bath showed a ratio of three pool bathers to one shower bather; but what is more significant is the fact that on certain days, when the plunge bath was not in operation, the bath was practically without patrons.

There is little to say of the tub rooms and toilets. If the former are considered necessary they should be inconspicuously placed. The general practice of placing the toilets directly in the bathing halls in an interior position is not desirable, as it is far better to depend on outside ventilation.

The laundry is not as yet considered an integral part of the American Public Bath, but its real value will be eventually recognized. The working classes have an aversion to publicity in their domestic affairs and are reluctant to use a laundry; but, if it is properly planned, with ample light and air, its advantages and conveniences become so apparent that this feeling of distrust is soon overcome. If the problem demands the placing of the laundry in the basement, the workrooms should be high and the first floor be well elevated above the sidewalk. It would be well to keep the patrons of the laundry room from coming in contact with the bathers. The exact disposition of the washing, drying and mangling machines depends entirely on the type of machines used, but in any case it is well not to crowd the machines and to allow liberal working space.

The machines, boiler-room and coal storage are generally placed under the waiting-rooms in our large municipal Bath Houses, in a place too restricted, poorly lighted and with little means of direct ventilation. The severe demands made upon this part of the building for apparatus and pipes require a liberal distribution of the entire

plant, and the necessary time and attention should be given to ensure, not only the accurate placing of the various apparatus, but the arrangement of the various lines of pipes and valves, as the ultimate success of the building depends upon this.

Ample room should be provided for the numerous lines of pipes, ducts, filters, etc.; also for the pumps and other apparatus required. A break in a too compact space makes immediate repairs impossible and often requires the taking down of a considerable part of the plant. A liberal factor of safety for overload should be provided, as the demands in certain seasons of the year are severe.

Many public baths are not equipped with attendants' rooms; a room for the use of the bath attendants should be arranged on every floor, with proper locker and toilet accommodations.

Superintendent's living quarters is a much-mooted question, whether it is advisable to provide for the superintendent's quarters in bath building for cities of the first and second class. They should by all means be provided for. They may be placed in an upper story, in order not to diminish the working capacity of the bath, and the cost is more than compensated by the additional care and supervision which the building receives.

In discussing the planning and functions of the public bathhouse a few words on the construction of the building may be of some value. The materials for the building, as in the hospital, must be primarily selected for their sanitary qualities, but they further require an ability to withstand the severe amount of the wear and tear received from the bathing public. The disintegrating effects due to the steam and water must also be considered, and it must be borne in mind that the waterproofing of the building must be as nearly perfect as possible. Eliminate as far as possible all openings in floors for pipings, standards or fixtures. It is safe to say that no bathing building yet constructed has not suffered more or less from leakage. The plumbing fittings throughout should be of the strongest kind, and sufficiently heavy to withstand the hardest usage.

Having indicated in outline the extent of the modern bath improvement, it is evident that our institutions do not compare either in size or impressiveness with foreign bath buildings; the value of this facility lies, not in pretentiousness, but in the sanitary and economic features, and it is in this direction that our Public Baths have shown progress. It may be that in the modern civic movement sufficient importance will be placed on this much neglected subject to allow some latitude for the realization of these ideas, which will result in a comprehensive system of Public Baths worthy of American communities and ideals.

SWIMMING POOLS.

By J. Leonard Mason, Newark, N. J.

That the showers or cleanliness baths are of primary importance is beyond question. The subject of swimming pools is, however, something which logically belongs to the students of public baths in general, and we should therefore go a step further in our observation and consider the whole subject from the standpoint of the Recreation Worker and Physical Educator.

The delights of swimming cannot be exaggerated. When one acquires a thorough knowledge of swimming it gives an added interest in life. I have seen the best results repeatedly demonstrated in School, College, Association and Public Swimming Pools.

In Boston and Brookline the good influence of the swimming pool spreads throughout the community. I think it is a mistake to say that swimming pools are institutions for the well-to-do classes only. Certainly the less favored citizen is even more appreciative of a chance for wholesome recreation. Modern methods of sanitary construction of swimming pools and strict regulations governing their use make them reasonably safe from contagion.

CONSTRUCTION.

First of all, the swimming pools should be constructed with the best known and most approved appliances for keeping the

water clean and pure. Particular attention should be paid to the ventilation and lighting. The buildings should be made attractive both inside and out. Dressing-rooms should be made secure to avoid petty thieving, although valuables are generally deposited at the office by means of the envelope system. Dressing-rooms should be placed in a separate part of the building. It is unhealthful to put on the clothing in the warm atmosphere necessary around the pool.

The ideal length of the pool is 75 feet, providing for 25 yards straight dash. The depth of the water should be at least 7 feet at the deep end and 2½ feet at the shallow end, providing for non-swimmers and children. An improvised gate may be constructed to separate the deep and shallow parts of the pool, if there seems to be any chance of danger. A rope is sometimes used to divide the pool. Where no division is made the attendants should be very watchful, and able to meet any emergency, should it occur. The depth of the water should be plainly marked.

CONDUCTING POOLS.

Active, intelligent men and women should be constantly in attendance. These employees should see that the rules and regulations governing the use of the baths are strictly observed. A thorough shower bath, using soap, should be insisted upon before a bather may use the plunge. The proper length of time which should be used for a swim is generally between twenty and thirty minutes. No one showing any signs of an infectious malady should be permitted to use the pool. Trunks, towels and bathing suits should be thoroughly sterilized after once being used. These should be made of a tough material to stand the wear and tear. Sizes may be shown by small brass tags securely attached. On women's and girls' hours washable curtains are hung in front of the shower baths. The attendants should be good swimmers, to enable them to properly safeguard the bathers. Poles and life-belts should be kept handy, as accidents are liable to occur, especially in a public pool where unknown persons are swimming. The general conduct should be orderly. Running around the edges of the pool should not be allowed, although under certain conditions the game of tag, which requires running, may be safely played. The charging of a small fee for the use of the swimming pool is found to be desirable. It does not seem to be a hardship, and the money received helps greatly to reduce the cost of maintenance. Certain days and hours may be made free for boys and girls.

SWIMMING INSTRUCTION.

Swimming is an ideal form of exercise for all ages and both sexes. It is also a most practical means of self-preservation and life-saving. It is often, and truthfully, said that every boy and girl should know how to swim. In many cities systematic instruction is being given to Public School pupils.

Competitions for the town or city championship exhibitions develop wholesome rivalry, centering about the swimming pool. This is educational socially and morally, and the public bath becomes a community center of much interest. There are few kinds of athletic entertainments which are more interesting and instructive than a "swimming exhibition." To see how Johnny and Mary come out in the relay race always provides an exciting moment for the father and mother or grown-up sister. All of the events in a well-conducted exhibition of aquatic sports are interesting. For example, to begin with there are the regular races covering the short dashes and the longer swims, back stroke races, races with the hands tied, the feet tied, obstacle races, candle races, fully dressed races, fancy swimming, water polo, water baseball, water wrestling and any number of amusing and exciting performances which the imagination can conceive of.

There is truth in the statement that swimming is one of the cleanest sports in more ways than one.

PROBLEMS TO CONSIDER.

The main problem ever before us is the maintaining of the sanitary swimming pool. An unsanitary pool is something to be ever avoided, but that we should earnestly strive for a properly constructed and properly conducted swimming pool seems to be beyond question. A swimming pool is the best means of encouraging bathing.

The habit of taking a cleansing bath is often acquired through the regulations requiring it before the plunge may be used.

Let us not deny the less favored sections the blessing of the swimming pool, nor any section of the city for that matter. And altogether as we study the whole subject of bathing, let us link together the idea of public health with that of public recreation.

THE SANITATION OF SWIMMING POOLS.

By Wm. Royal Stokes, Chief of Bureau of Bacteriology, Baltimore, Md.

The most important factor in the sanitation of the swimming pool is an unpolluted condition of the water, and in order to maintain such a condition it is first necessary to study the various ways in which a pool may become polluted. In the first place, such a condition may result if an impure water is used for filling the pool, and this can be easily detected by a bacteriological and chemical examination. A second source of infection results from the many bacteria washed off from the surface of the body of the bather, and some interesting experiments have shown how at times large numbers of such organisms from the outer surface of the body find their way into the water.

Bunker and Whipple mention the case of a stoker who bathed in a tub for three minutes, and the water increased in its bacterial content from 24 to 1,900 bacteria per cubic centimeter, the intestinal or colon bacilli increasing from 0 to 40 per cubic centimeter. Twenty-five billion bacteria were washed from the surface of a dirty hospital patient, while the feet of a boy yielded eighty million bacteria. When the general average per bather in a swimming pool was computed, the number varied on different days from 10 to 2,400 bacteria per cubic centimeter for each bather, and when one remembers that this amount is only about 15 drops of water the total amount of bacterial pollution for the entire body of water mounts up into the millions. These examples are simply cited in order to show how a pool may be rendered impure, but these contaminating organisms may not be capable of producing any disease. The main danger arises when they come from patients in the early stages of the various intestinal diseases, or from individuals who are convalescent, or who may be carriers of the bacteria of the various intestinal diseases.

It is a well-known fact that individuals who have recovered from typhoid fever may at times harbor the germs of this disease for some weeks, or even months, after they recover from the disease, and from 2 to 5 per cent. of all persons who recover from typhoid fever become chronic bacillus carriers. Such persons carry about the typhoid bacillus for years in their intestinal contents, and at times act as sources of widespread infection. The bacilli of typhoid fever and other intestinal diseases are also present in the beginning of such diseases, or in cases known as walking typhoid, and such bacteria may be washed off the body during the process of bathing and swimming, and thus infect the pool. Then again, the water furnished to swimming pools is not always free from pollution, coming as it does at times from rivers or streams contaminated by the dwellings, or even towns and cities, situated on these watersheds.

It may be argued that even if a few typhoid bacilli get in such a large body of water the doctrine of chances would render the danger of infection very slight, especially since very little water is taken into the stomach during bathing. The large amount of water taken into the mouth and then rejected may introduce many bacteria eventually into the intestines, but the main danger is caused by the rapid increase of the bacilli in the warm water containing a progressively increasing amount of organic material which can be used as a food for the bacteria.

This increase of the organic matter present in the water has been demonstrated by Tully, who made a number of examinations of specimens from the pool at the University of Wisconsin. The nitrogen as free and albuminoid ammonia nearly doubled, and the nitrites septupled within a period of five days. That this increase of organic food encouraged the increase of bacteria is shown by the fact that water originally only contained 150 bacteria per cubic centimeter

in 48 hours contained 29,600, and on a second occasion the count rose from 30 to 21,900 in similar length of time. The number of intestinal organisms also increased, thus showing directly how the germs of the intestinal diseases may multiply in such water.

In describing the possibilities of infection from swimming pools I do not wish to be regarded as an alarmist, since I really believe that infection in this way is comparatively rare when compared to the danger from many other sources. A typhoid fever outbreak, however, in Walmer was thought to have been caused by a swimming pool, and some of the typhoid cases in Pittsburgh were also regarded as due to such a cause. The main danger, therefore, as far as infection goes, is from the bacteria producing typhoid fever, and the other intestinal diseases, but various authors mention cases of middle ear disease, pink eye, and other catarrhal conditions caused by the bathing pool.

It is obvious from the aforementioned facts that no bathing pool should contain intestinal or infectious bacteria, and as we now possess a simple remedy for such conditions, this should always be applied. The use of calcium hypochloride or bleaching powder is now proven to be a satisfactory safeguard.

This chemical should be added daily* to the water in quantities corresponding to 0.5 of a part of available chlorine to 1,000,000 parts of the water, and, when used in such an amount the intestinal organisms are promptly destroyed. This amount of chlorine would correspond to about 1.5 parts of the fresh bleaching powder, and the simplest way is to place the powder in a cheese-cloth bag attached to a pole by means of a string. The bag is immersed in the water and then dragged back and forth until all of the "bleach" is dissolved. If it is desired to apply the material in solution, an engineer should be consulted and a simple apparatus can easily be installed that will add exact amounts of the solution to the water.

In addition to the disinfection of the pool the general sanitation should, of course, consist in the use of individual towels, as the social diseases may be transmitted by soiled towels, and even blindness may be caused by such unclean materials being introduced into the eyes. Towels, trunks and other fabrics used in the bathing pool should be boiled for at least five minutes during the process of washing before being used a second time, and the rule enforcing a shower bath before entering the pool is a good precaution. The use of a urinal in connection with a swimming pool is a bad practice, as the feet may become soiled and thus perhaps introduce typhoid bacilli from a typhoid carrier into the water, and the use of the screened toilet is to be preferred. Cuspidors containing a disinfectant should be provided for the use of bathers.

These suggestions, perhaps, may embody most of the important measures necessary for the proper sanitation of the swimming pool, and it might only be added that Seattle has thought enough of this subject to have framed an ordinance regulating this healthful recreation. Any other city contemplating such a step should consider the question of the proper disinfection of the pool itself, and this requirement should be added to the ordinance.

If such regulations are properly carried out the persons seeking this recreation also as a hygienic proceeding need never fear disappointment.

*The pool should be emptied once a week if the daily application of the bleach is made.

Wednesday Morning, May 14th.

DISCUSSION.

Mr. Beadenkoff: I would like to ask Dr. Stokes whether he agrees with the general principle of filtration and refiltration of polluted water.

Dr. Stokes: I do not believe that refiltration of water is necessary, unless for economic reasons. I do not believe that water filtered and refiltered could possibly be entirely purified. If refiltration is used, I think hypochloride should be added.

Dr. Baruch: The chair would observe that Mr. Crane stated the water which had been used at Amherst College for three years was recently examined chemically and pronounced an absolutely pure, clean water.

Mrs. Jacobson: I think the question of

injurious germs is an important one in public baths. We must be more careful in public baths, because of the numbers who use them and the non-resistance of the bathers.

Dr. Baruch: Did I understand, Mr. Windolph, that the pool would displace all other baths?

Mr. Windolph: There is a tendency in that direction.

Dr. Baruch: I am sorry to hear it. I think the pool is valuable for recreation and swimming, especially now that we know that all bacilli are eliminated by refiltration and hypochloride of lime; but the pool will never become the cleansing bath for popular bathing. The cabinet shower combined with the pool will displace all other baths. If you must have a shower to clean the people you have all that expense, and the pool is simply a luxury. I have not the slightest objection to pools for swimmng and recreation, but the shower bath with soap and water is the only cleansing bath that exists, and I think there will never be any better than that. The public pool bath is a luxury and the people who enjoy it ought to pay for it, and no doubt five or ten cents would not be too much. But the public shower is the cleansing bath; it is private, it is absolutely sanitary, the water never touches the next bather, and all these advantages are very plainly understood. The pool will continue to be the recreation bath.

Mr. Windolph: Small cities have shower baths always, but in the larger cities, I think, the tendency to combine shower and pool will be preferred.

Dr. Baruch: Mr. Windolph said the pool uses less water than the shower. I have allowed the boys to take their showers while standing in the empty pool and then measured the water after the bath. You will find in our exhibit a picture of the pool in the New York Juvenile Asylum, to which I was physician. The quantity found was just one-eighth the quantity used in the pool bath. This enormous economy of water and coal for heating it is an eloquent plea for the shower.

Mr. Windolph: There is less water per bather in the pool bath than in the shower, because in the shower baths nine times out of ten the valves are out of order; the water is constantly running, because the attendants cannot see it so plainly.

Dr. Hale: You must have pretty bad conditions.

Mr. Beadenkoff: That is a shocking statement that the valves are out of order.

Mr. Windolph: That was in New York.

Dr. Baruch: I have devised a plan to prevent that; a photo of it may be seen in the hall. The attendant controls all the water in the showers. It would take the bather ten minutes to arrange the temperature of the bath, while the man who is doing it several hundred times each day can do it in a few seconds. Mr. Windolph is guessing with regard to the quantity of water, while I have actually measured it and found the showers consumed eight times the quantity of the pools.

Mr. Eisenbrandt: There is no question in the world that for sanitary cleanliness, for hygienic purposes, the shower bath is the one best thing, but, as an association for the promotion of bathing in general, I do not think we should take a stand for one kind of bathing as against another kind. I think that, if I interpret the purposes of the organization rightly, it is that we should promote everything that pertains to bathing, and that means whether it be for cleansing reasons or for recreation. We can aid in promoting cleansing baths by and through the swimming pool, because, you take the young people, as you have yourself said, they are prone to go out into the open and into the rivers or the brooks and find some place where they can have a swimming pool, not to cleanse their bodies, but for recreation. And if through the swimming pool we can encourage these boys to take cleansing shower baths before they enjoy the swimming pool they will soon learn the necessity for using the shower. I think we will find both the pool and the shower bath the things we ought to stand for.

Dr. Baruch: I said very clearly that the swimming pool will always have its place for recreation and teaching swimming. I certainly advocate it; but the shower bath is the cleansing, hygienic and refreshing bath. I want it understood that I do not stand for one bath more than any other, but each has its place.

Mr. Ross: It seems to me that the essential point about the question of pools is the administration. We all know there is nothing wrong with a good swimming bath, and that is the way people naturally take to bathing; but it seems to me that it is one of the most difficult problems to keep a pool bath sanitary. If you have large numbers of people going into pool baths you must

have somebody with a high sense of responsibility standing guard all the time. How in the world are you going to have sanitary pools? It requires something more than correct ideas; it requires administration; and I say that that is a very difficult thing to bring about. In Philadelphia we have over twenty pool baths, and I have not heard anything very bad about the pool baths recently, but I know that four or five years ago they were a continual source of annoyance, and there were over a thousand cases of disease that came from the improper management of the pool baths. In regard to the waste, a shower bath is a very expensive kind of bath, even if properly managed. Shower bath systems have been allowed to run themselves. Mr. Windolph spoke of seeing water escaping. You can overcome that to a great extent by keeping the temperature of the water to a minimum, say 100 degrees F. There has been great progress made in all lines toward a better regulation of hot water. It is perfectly possible now, and with no great difficulty, to keep it within two or three degrees of the desired temperature. And then another thing, there is a great deal of water wasted at the shower head. We used to have a shower of five inches; the one I had constructed is four inches.

Mr. Windolph: I have brought with me a new shower head which a mechanic has just made, in which the control of the flow of water takes place right in the shower head itself, and in order to cut down this terrific waste you can control it. At the same time this shower head is arranged to be self-cleansing. Instead of clogging up the holes, it is arranged to always keep the shower head in good shape.

There is another point that has interested me in the last ten years, and that is the mixing valve. That has not been simple enough. There is a valve in our exhibit which is very simple and automatic.

Mr. Mason: The whole number of showers may be operated by one man at Wellesley College, and at Plant's Shoe Factory in Boston and one in the Normal School, the idea being that they go in classes, any number of bathers from ten to one hundred, all receiving the same temperature. A good many people like to take their own kind of a bath, and there is a good deal said against it on that point. But the thing we have all found that we have trouble with is the children, the boys and girls, with the individual shower baths. They never regulate the water properly. One gymnasium put a long pipe across the room with perforations in it so that forty or fifty children could use it at once.

Dr. Baruch: On the subject of the pictures shown, I would suggest that one cannot form an idea from these of the size of these baths. I took the pains to visit the ruins of the Diocletian Baths and I discovered that there is a public square standing over those baths; there was a lumber yard and the grand hotel and two or three other buildings besides Michael Angelo's Church, all built over the space covered by the Diocletian Baths. That will give you some idea of their immensity.

Mr. Cross: In using the valve Dr. Windolph was just speaking of, does the bather have to hold his hand on the valve until he has finished washing himself?

Dr. Windolph: Yes, he would have to do that; but if his body was wet he could soap himself and not have the water running over him. He can really get a better bath by getting his body wet and then soaping himself, rather than if the soap was immediately washed away by the running water. Refiltration does not remove the organic filth in solution, and three years of the use of refiltered water would introduce a large quantity of organic bodies into the water. Hypochloride of lime should always be used.

Dr. Baruch: I would like to ask Dr. Stokes who made the investigations about drinking water. It occurs to me that eventually the water would become thick with hypochloride of lime. Can you filter the lime out?

Dr Stokes: In the pool most of the liberated chloride combines with the organic matter.

Dr. Windolph: The use of filters in baths is a good thing. It keeps the mechanical part of the bath in good shape. While the initial cost may be considerable, I think in time it would pay for itself. It keeps the valves, in particular, in good shape.

THE EUGENIC MARRIAGE PRENUPTIAL MEDICAL CERTIFICATES*.

THOMAS W. HARVEY, M.D., ORANGE, N. J.

THE subject for discussion at this meeting is the advisability of the members of this Association demanding certificates of health from those asking for the sacrament of marriage.

The object of the requirement being to protect the individual would naturally narrow the character of the health certificate required to freedom from venereal disease. The value and necessity of this is almost axiomatic, and hardly needs argument. Every man and every woman should require it as a right without the intervention of the clergy, and every father and guardian should insist upon such knowledge before consenting to the marriage of their children or wards.

The minister, however, does not solemnize all the marriages, and there is a large number of the clergy who have no choice and must marry all applicants who can canonically be married.

To have any value as an eugenic measure these certificates must be required by state enactments and must be similar in all states. Such legislation has been enacted in several states, the laws, however, are tentative, halting and conflicting. I have therefore taken the liberty of considering this subject from a broader point of view than the immediate protection of the individual, and I shall also present for your consideration the difficulties in the way of securing certificates that shall be entirely trustworthy.

This requirement of a certificate of health as a preliminary to marriage is certainly a wise and humane procedure for the individual and invaluable for the development of the race. Theoretically it is ideal, the practical application presents many problems. The primary object is to protect the individual from certain contagious diseases, diseases which are destructive to health, happiness and even life, often entailing a lifetime of misery and invalidism upon the victim, and which every man and woman has a right to be protected from. A large proportion of our surgical work to-day is done to correct conditions caused by such diseases.

The secondary object is the protection of the coming generation, not only from the effect of the contagious venereal diseases, but also from inherited tendencies to such diseases as tuberculosis and insanity, and to degeneration and retrogression resulting in the hordes of defectives that crowd our asylums, our slums and our prisons.

The chief object of life is the perpetuation of the species. Nature provides for this by the enormous over-production of seminal agents, but Nature does not insure their healthy origination, their conjugation or their development. Society, in its varying development through the ages, has influenced all of these things; progress towards rational control has been made, but not at all proportionate to the progress in our knowledge of how such things should be controlled.

Students of Biology have elucidated many of the mysteries of generation, of inheritance, of the transmission of ancestral traits, of "sports", of reversion to type, etc. So far as plants and animals below man is concerned, the laws governing all such phenomena have been well observed and applied to the development of superior and ascending strains so that breeding for certain well-defined purposes is quite an exact science. It is perfectly possible to destroy the defective individual and to prevent the transmission of undesirable parental characteristics, noxious environment may be corrected and diseases eliminated.

To the human animal such conditions are impossible, although the history of the race gives us numerous illuminating

* Read before the Ministerial Association of the Oranges, June 18, 1913.

instances of experiments along cultural lines, such as the exposure of the Spartan children, and the development of certain families to a high degree of power and physical superiority as in the ruling castes of many tribes and the nobility of medieval Europe. Even the religious persecutions of the past may all be studied advantageously from the same point of view, only in these instances it was the virile and ascending strains that were cut short, and the weakling and descending strains that were carefully preserved.

The mystery of the transmission of the vital spark is still the "will-o'-the-wisp," that it has been to the philosophers of all ages. Biology has taught us, however, some of the laws governing the phenomenon, and through the elaborate studies of the monk of Brünn we have learned the story of the transmission of ancestral traits and tendencies, and what is popularly known as inherited diseases. I feel that it is not impertinent to the subject under discussion to call your attention to the story of heredity.

The new individual consists of the union of two cells which fuse and divide progressively. Immediately, there is a differentiation into the reproductive cells and the general somatic cells. The first remain quiescent holding in their substance the centrosome, that portion of the germ plasms that has come to them from the preceding generation full of all the potentialities of the new organism, to be preserved to be passed on to form the next generation carrying with it the determiners of the characteristics of the paternal and maternal germ plasms, and which retains in all its integrity the complete and stable organization of the fertilized ovum from which the whole organism develops; while the body cells, differentiated for all the many functions of the body grow and develop, varying in form and capabilities, responsive to favoring nurture or to depressing environment, making up the sentient individual that grows, matures and dies; so far as we know to-day they do not directly contribute to the next generation. Here we are on the border of the unknown and in a region of thought where is still being debated the question of the transmission of acquired characteristics. Thus the soma, the body, dies, while the germ passes on, carrying to the next generation part of the past, taking something from each parent cell, living a sort of immortal life if you will, being poisoned by alcohol or opium, or sepsis, or syphilis in one generation, being deformed by lack of proper pabulum in another, stunted by inadequate nurture in another, hampered by vicissitudes of environment in another, stimulated to progressive variation by happy combination with strong advancing strains, held back or stimulated to vicious variations by mixtures with degenerating stocks. Ever true to type, in one generation there will be introduced an influence that will strengthen a tendency or a susceptibility to the infection of special diseases, in another the inheritance or resistance to such infections may be increased by fortunate mixture of strains to a point where the germ will carry with other potentialities that of immunity to such infections.

It is evident that these germ plasms which are to be passed on should be so mated as to increase the tendencies toward health and away from degenerative diseases. Two blue-eyed parents will always beget blue-eyed progeny unless in some preceding generation brown or black eyes have been present. Two people with tendencies to tuberculosis will be pretty sure to transmit these tendencies to their offspring. Two syphilitics similarly. Two idiots will transmit idiocy. Two individuals possessed with tendencies to degeneration, either insanity or criminality, will transmit such tendencies; a favorable environment will insure the crop. One diseased or decadent parent will mark the immediate and succeeding generations. At intervals in accordance with well understood laws, there will appear the evidence of the taint, just as blue eyes or black hair, or supernumerary digits will appear in one member of a family of children.

Thus we may account for much of the originality of the world. Says Arnold Bennett, "Take the case of an individual with an imperfect idea of honesty. Now that individual is the consequence of his father and mother and his environment, and his father and mother of theirs, and so backward to the single-celled protoplasm; that individual is a result of the cosmic order, the inevitable product of cause and effect."

By all means let us have protection for the individual, and for the future of the race by prenuptial health certificates.

Who is to furnish them? Here is a situation where absolute honesty on the part of the giver of the certificate is a sine qua non; moreover, he must know how. These certificates are of no value if one variety can be bought in one town and another in a contiguous town, or if one state calls for a less stringent certificate than its neighbor. The legislature of the State of Washington has had to repeal its marriage law because the requirements were so exacting that its citizens went across the border to be married. We would at once have the same conflicting laws that we now have in medical licenses and in divorce proceedings.

The proposition is evidently not a simple one. We have at the very beginning to consider the question of personal liberty. This has been the subject of a careful review in a recent number of the Journal of the American Medical Association, from which I quote.

"The maxim, 'salus populi suprema lex,' according to Judge Barker, amounts to this: Man in his natural state has a right to do whatever he chooses and has the power to do. When he becomes a member of organized society, under governmental regulation he surrenders, of necessity, all of his natural right, the exercise of which is or may be injurious to his fellow-citizens. This is the price he pays for governmental protection. But it is not within the competency of a free government to invade the sanctity of the absolute rights of the citizens any further than the direct protection of society requires."

"While it is generally recognized that a state can prescribe conditions under which persons may marry, the cases, nevertheless, seem without an exception to assert that such conditions must be 'reasonable.' The power of a state cannot be so exercised as to infringe arbitrarily or 'unreasonably' on personal rights; the public good must be the objective in any such legislation, that is, the act must be for the prevention of some offense or manifest evil, or the preservation of the public health, safety, morals or general welfare. There must be a clear, real and substantial connection between the assumed purpose of the enactment and its actual provisions. The act must in some plain, appreciable and appropriate manner tend toward the accomplishment of the object for which the power is exercised. The sovereign power of a state cannot be used as a cloak for the invasion of personal rights.

"In conclusion, it may be said that any bill drafted with the intent of crystallizing the present theories of eugenics into law, must conform to the 'rule of reason,' laid down by Judge Marshall in the Wisconsin decision. This is, that any restrictions on the acts of citizens must be 'reasonable' restrictions. Unless this point is kept in mind in drafting bills on this subject, and if any extreme or unusual restrictions are incorporated in the bill, there is danger that the courts may declare the whole law unconstitutional on account of the 'unreasonableness' of some provision, such as that requiring a physical examination as a prerequisite for a marriage license.

"The idea of such a statute should be rather as a guide and for instructive purposes than to designate any definite method of procedure. Inculcating the principle of John Stuart Mill, it could be forbidden that certain classes intermarry and then leave it with each individual as to whether or not he dare tamper with the health and welfare of the coming generation, or himself sustain a possible injury through an unwise act. This would be tantamount to embodying the thought to which the women's clubs desire to give expression, and would meet the possible objections of those individualists who are ever fearful of a too extensive development of the paternalistic theory."

This question of the right of personal liberty will have a different solution every year. Thirty years ago it was difficult to restrain a man's personal liberty to the extent that he should not have all kinds of nuisances on his property offensive to the eyes and nose of his neighbor; to-day there is no thought of the restraint, the city makes him shut up his well, take public water and connect with the sewer. A man's personal liberty may be so restrained that he shall not give small-pox or scarlet fever to his neighbor, and a recent New Jersey law allows the State Board of Health to condemn to an isolation hospital a man or woman who persistently endangers the health of his neighbors by not observing the Board's regulations regarding tuberculosis. It surely is no greater infringement of his personal liberty to compel him to refrain from infecting his wife with venereal disease.

The late Dr. Prince Morrow argued that the infection of another person with venereal disease should be a penal offense. Therefore we may assume that it is no infringement of his personal liberty to compel a man to furnish proof that he will not be a menace to his future wife. The time will come when it will be no infringement of his personal liberty to restrain his power to procreate defective children. Legislation along this line is being passed by some of the states and has been put in force in one state. This, however, is another story, as Kipling says.

If certificates of health are to be required prior to marriage there must be certain standards. We are primarily to require freedom from contagious disease and tuberculosis. There are destructive contagious diseases the existence of which in the person of either party to the proposed marriage should preclude marriage. Insanity, inebriety and inherited defects of intellect should also act as a bar to marriage. No man or woman should marry an inebriate.

If we are to consider the future of the race none of the defectives should be allowed to marry, much less to intermarry. It is not difficult to find in the ancestral line of the criminal or moral degenerate the individual lunatic, the inebriate or the syphilitic who has handed down according to Mendelian laws a taint or mental twist that has developed a degenerate, a moral delinquent, the "black sheep" of the novelist, to bring down mortification and disgrace upon his family.

Every man and every woman should have the right to know that there is no danger of contracting such diseases. Such knowledge is possible only after a medical examination, and such medical examination to be of any value must be thorough and above suspicion as to its honesty. Absolute certainty as to the presence of syphilis is probably impossible without a Wasserman test; other diseases also require a special technical examination to determine certainty of diagnosis; not every physician possesses the technical knowledge to make such diagnosis.

Nothing is so cheap to-day as technical skill, it can be bought for any price, our court trials give abundant evidence of this. The question, "whose certificates are the ministers to accept?" is a vital one. Your own personal knowledge, or even a popular reputation will not be the best guide to the choice of such authorities. Prenuptial health certificates even for the primary purpose of preventing contagion to the innocent individual should be issued by a specially appointed, technically trained Bureau of Examiners who should be free from any suspicion of venality. This ought to be a municipal or state bureau. I believe that the best source from which such certificates should issue for those who can afford it, and all such certificates will cost money, will be a Surety Company that will furnish a certificate based upon an expert examination carrying with it an insurance of the absolute certainty of the findings of the examination; such a certificate being of the nature of a bond. Such certificates should insure against the presence of venereal or tubercular disease.

When it comes to the secondary object, the protection of and the improvement of the race, mere certificates of health are useless. The problem is not to prevent marriage, it is to prevent procreation. It takes very little thought to convince one that there are innumerable degenerates who ought not to be allowed to perpetuate their particular variety of the human species, and this applies not only to the idiots and to the insane, but to the many others where the tendency, generation after generation, is downward towards degeneracy, mental or physical.

There is one thing, however, that we have to remember, the human species is as liable to the production of "sports," as are the vegetable species, and these "sports," which we call geniuses are often sprung from pathological and decadent stocks. It has been from the careful nurture of "sports" that biological wizards like Burbank have developed, useful and ascending strains, but in the human species it is pretty certain that the law of reversion to type will hold true, and the offspring of a "genius" will rarely show an improvement, but more often will show a retrogression to a lower scale even than the traditional "poor but honest" progenitor of the human "sport."

I cannot urge too strongly my belief that the general practitioner, the family physician, the "reputable physician" of Dean Sumner is not qualified to give such certificates. Without discussing his lack of special technical ability we are forced to reject him as a proper person

to furnish such certificates because of the vital importance of the "professional secret," the inviolability of which is the mainstay of society as it exists to-day. And this applies to the minister and the lawyer as much as to the doctor. Suppose the memories of the men in this room could be read by every gossip of the daily press how much unhappiness would ensue, how many fair reputations would be smirched, how many happy families would be blighted? No, we cannot urge the breaking down of that defense of society that is found in the sacredness of the professional secret, hence the more important is it that prenuptial medical certificates of health be made by a disinterested public bureau, or by a properly established surety company which may be held to the same accountability as any other company.

Another phase of this subject is the accountability of the physician making such examinations. The person issuing a wrong or a lying certificate could be held for damages by the injured party, and a man would always have the right of appeal.

At present there is no unity among the states as to the legal qualification for marriage even when there has been some attempt to adopt eugenic legislation. The usual qualifications refer to mental capacity, physical capacity, consanguinity, race, color or previous marriage. Ohio and Washington require certain standards of health. Connecticut and Minnesota have laws forbidding the intermarriage of persons who fall within certain classes, but the laws of neither state include persons afflicted with pulmonary tuberculosis and venereal diseases. Michigan, Delaware, New Jersey, North Dakota, Ohio and Kansas, among other states have legislated along similar lines. None of these laws have proved satisfactory or effective and do not furnish the remedy for the evil. The Idaho bill, consisting of thirty-six sections, repeals all previous legislation on the subject in that state. It defines marriage, states who may be parties thereto, designates certain conditions precedent which must be performed prior to the consummation thereof; names the grounds for divorce and provides certain penalties for any violations of its mandates. The part which deals directly with the subject of eugenics is as follows: Section 7, forbids the intermarriage of persons afflicted with insanity, feeble-mindedness, imbecility, epilepsy, syphilis, gonorrhea or with contagious venereal diseases, and also those who are common drunkards or addicted to habit-forming drugs.

Some of the developments of the discussion are worth considering. A proposed California law is to the effect that those unfit for parentage should be sterilized and then allowed to marry, which is a monstrous and an abominable proposition.

The Rabbinical teaching is that all eugenic matters are for the privacy of the home, and that there, the fathers of the race who are versed in the books of Moses and in the Torah, and are fully qualified, teach the doctrines of right living, personal cleanliness and personal purity. However, some of the most active workers in this new movement for the protection of the individual and the improvement of the race have been Jewish medical men.

A proposition from some of the Women's Clubs is to the effect that such certificates be required only of the prospective bridegroom, which is a reasonable proposition well supported by the facts, but it hardly squares with modern ideas of the equality of the sexes.

Certain clergymen of the Roman faith have taken the position that the requirement of health certificates is an impediment to marriage which should not be countenanced by the Church.

This question of an impediment is important. This Association administers to just the group of people from whom the Eugenist would choose the parents of his improved human beings, yet these are the people who are voluntarily restricting the birth rate and depriving the race of some of its hope for the future, while from the warrens of the East Side swarm the litters of degenerates who make up the bands of gangsters and white slavers that threaten our lives and the sanctity of our homes.

CONCLUSIONS.

1st. Every woman and every man has a right to know that marriage will not be a menace to his or her health or to their offspring.

2nd. Such knowledge may only be obtained by a special medical examination quite different from the ordinary life in-

surance examination or the "good health and sound constitution" examination required for admission to the public service.

3rd. Such examinations should be made by a disinterested, incorruptible public commission, or by a surety company carrying with it an insurance provision.

4th. To be of any eugenic value such examination should be a state regulation and should cover all forms of degenerative disease, mental and physical.

5th. It is important to consider in this connection the effect of putting restraints on matrimony in causing celibacy and illegitimacy.

6th. It is also well to remember, in applying ideally perfect eugenic legislation, that many of the world's most brilliant mentalities have sprung from lowly stocks and have been associated with inherited physical disease clearly the outcome of family degeneracy.

7th. If the Ministerial Association concludes to require prenuptial certificates of health it should be clearly and popularly understood for just how much such certificates stand and the reliability of the medical examination must be beyond question.

8th. Probably the most that we can expect from the present agitation is the teaching the parent and guardian the certainty of the tragedy that follows the marriage of those who have any trace of venereal infection, and the safeguarding of some of our young women and their children from the diseases that are sure to follow such marriages. As a consequence we may hope that there may follow some improvement in the morals of our young men.

CARBON DIOXIDE SNOW.

Surgeons use pencils made of carbon dioxide snow to stripple off warts, moles, birthmarks and other skin disfigurements; even skin cancers are cured this way. It would be used oftener if the preparation of the stick were not so troublesome and costly. Dr. M. B. Ahborn, of Wilkesbarre, Pa., has devised a method by which these objections are largely eliminated. He gets from any drug store an ordinary tank of carbon dioxide such as is used for soda water charging. Tilting this tank at the proper angle gives sufficient pressure at the vent to insure use of all the gas in liquid form it contains; for the liquid is in the dependent portion of the tank. To this end Dr. Ahlborn has devised an inexpensive holder of oak on casters which will support the tank firmly at about a right angle and allow it to be easily moved. The tank itself is best placed in a cool cellar, since its gas is liable to explode in a temperature much above 70 degrees F. The snow is then made in an ordinary glove finger, preferably of porous leather, but without pinholes; this is tied firmly over the vent of the tank by means of a shoe string fastened in a single bow knot (so as to be quickly loosened, thus insuring as little as possible melting of the crayon). This string is wrapped two or three times firmly about that part of the finger which is pulled over the vent. The gas is then gradually turned on, by means of a small wrench which comes with the tank, until a stream of it balloons the finger just to tightness, but not more, lest the latter burst. Presently the glove finger will be found hard as an icicle when, the string being untied, it is pulled off the vent. The snow may be kept some hours if put in a large test tube or closed porcelain dish, and set directly on the ice, in a refrigerator. However, it had best be used at once by running a sharp knife around the glove finger about an inch from the tip (not cutting deeply into the snow). The loose end of the finger is then pulled off leaving an ice mould. The remainder of the glove finger becomes the holder, protecting the surgeon from the freezing, which is applied from the point, where it is intended to do good, upon the patient's skin ailment. The end of the crayon can be brought to a point like any lead pencil by means of a sharp knife, and can thus be applied to a very minute area.

RURAL SANITATION.

THE COLEMAN PLAN.

The citizens of every rural community should hold an annual meeting not only to elect a local guardian of health but to assign other duties which should be divided out in an orderly manner. No community can prosper where the citizens live in selfish loneliness. Scientific farming by individuals, with co-operation and combination by the whole community are essential to health and happiness in rural life. Farming is more suitable for the basis of ideal living than for quick profits. Fairs at the county town may drain and weaken the country, but a neighborhood fair helps and stimulates. There should be quarterly and monthly market days in each country district.

According to the "Coleman Plan," at the annual community meeting, the following co-operative workers may be elected: 1. Barber. (Unlike the town barber his chair and tools may not bring the risk of infection by persons from the whole town and county). 2. Blacksmith. 3. Butcher. (The farmers will take animals in turn to him for butchering and will not have to eat rancid salt meat). 4. Buyer and Seller. (He will soon become expert and will get discounts for his neighbors by buying in large quantities). 5. Cobbler. 6. Carpenter and lumberman. 7. Carrier and to distribute meat, bread, and supplies, and to collect things to be sold. 8. Health guardian (against infection, the breeding of flies and mosquitoes). 9. Freighter (to town once a week). 10. Referee (a wise and just-minded man, if one such can be found). 11. Road foreman. 12. Sports manager (who will plan a good ball game ground, swimming hole, recreation grove, and arrange holiday celebrations, match games, athletic meets). 13. Junker (to buy and sell second-hand articles). 14. Seedsman, to develop and save the best seeds. 15. Chairman of meetings at Neighborhood Center (the schoolhouse?). 16. Storekeeper. 17. Teacher. 18. Tinker (for tinware, sewing machines, clocks, etc). 19. Trustee for school. Of course all remain farmers. The storekeeper, for example, opens the store for one hour each day.

The community work for the women may be as follows: 1. Baker. 2. Butter and cheese maker. 3. Manager girls' canning club. 4. Manager of school or neighborhood fair. 5. Merrymaker, to arrange parties, plays, picnics and merrymakings. 6. Postmistress. 7. Reading club manager. 8. Referee. 9. Song and glee leader. 10. Seamstress and tailor. 11. Teacher. 12. Trained nurse. (She, in common with many of the other workers, should miss no opportunity for study and training in her special work.)

INSPECTION OF WATER-SUPPLY.

Let me for a moment note the fact that we have a most thorough inspection of the milk supply, of our meat supply, of food adulterations, but in how many communities in this country have we properly protected not only the inhabitants, but the stranger and traveler from infection by preventing the drinking of contaminated water from pumps and wells? You ask the average farmer or average person what he thinks about the water in the well on his premises and he will invariably tell you that the water is pure, clear and sparkling; and yet how many of these wells may not be contaminated with pathogenic germs? The inspection of many other things is no reason why a most thorough inspection should not be made of the wells, lakes, rivers and streams that all water supply not only in the cities but in the farming districts should be guarded. The state or county should order a most thorough control, and a periodical examination should be made and an official notice posted at all sources of water supply, stating the condition of the water, whether it is pure or otherwise, whether it is liable to bring about a disturbance of the gastro-intestinal tract or not. — Francis E. Fronczak, in *American Journal of Public Health.*

WHO ARE THE VIVISECTIONISTS?

According to Darwin, one of the chief mental differences between man and woman is woman's greater tenderness. Of this feminine tenderness the world has been able to judge on a vast scale during the last two or three years, writes Mr. Finck in *Romantic Love and Personal Beauty.*

According to a statement in *Nature,* 30,000 ruby and humming birds were sold in London some years ago in the course of one afternoon, and the number of West Indian and Brazilian birds sold by one auction room in London during the four months ending April, 1885, was 404,464, besides 356,389 Indian birds, without counting thousands of Impeyan pheasants, birds of paradise, etc. A writer in *Forest and Stream* mentioned a dealer in South Carolina who handled 30,000 bird skins per annum. "During four months 70,000 birds were supplied to New York dealers from a single village on Long Island; and an enterprising woman from New York contracted with a Paris millinery firm to deliver during this summer 40,000 or more skins of birds at 40 cents each. From Cape Cod, one of the haunts of terns and gulls, 40,000 of the former birds were killed in a single season, so that at points where a few years since these beautiful birds filled the air with their graceful forms and beautiful snowy plumage only a few pairs now remain." It is estimated that not less than five million birds of all sorts were killed in a year for purposes of ornamentation, wrote Mr. Powell in the *New York Independent.* A correspondent of the *New York Evening Post* saw at an art exhibition a young lady with "nothing in her face to denote excessive cruelty," who wore a hat trimmed with the heads of over twenty little birds; and the same paper remarked editorially: "No one can tell how large a bird can be worn on a woman's head by walking on Fifth Avenue. It is necessary to take a ride in a Second Avenue car to get the full effect of the prevailing fashion. There one may see on the headgear of the poorer classes, and especially of colored women, every species of the feathered kingdom smaller than a prairie chicken or a canvas-back duck, and every color of the rainbow.

It was *Science,* edited by men, that started the agitation against women's cruel and tasteless fashion—a fashion which not one woman in a hundred apparently refuses to conform to.

CORRESPONDENCE.

(Subscribers are heartily invited to write us on any subject to which The Gazette *is devoted.)*

A reader and friend, though renewing her subscription, wrote September last: "The Gazette is not as good as it used to be."

[Hang on a bit and see what happens.—Ed.]

A subscriber from Hawaii writes: "The Gazette is, if possible, better than ever. A noted man in Montreal said to the writer that he would not sell the information obtained from one article, which appeared in your paper, for $15,000."

[And the subscription price of The Gazette is just one dollar; one dollar and a half to Foreign Countries. Hawaii is not a Foreign Country.]

A subscriber writes: "In the November issue of the Gazette there is an editorial on Infantile Paralysis, in which you refer to Dr. Rosenau's important work. Will you please tell me where I can obtain more of what Dr. Rosenau has written on Infantile Paralysis?"

[Dr. Rosenau writes at length on this subject in his very readable book on Preventive Medicine and Hygiene, which every public library, at least, should contain. The family physician can procure also a reprint of his paper *The Mode of Transmission of Poliomyelitis,* which appeared in the *Journal of the American Medical Association,* May 24, 1913.—Ed.]

THE LEISURE HOUR.

HISTORY, PHILOSOPHY, FICTION, HUMOR, SATIRE, POETRY.

LEISURE HOUR WAS FOUNDED IN THE BELIEF THAT THE PHYSICIAN IS BUT HUMAN; THAT HE LOVES THE BEAUTIFUL IN THOUGHT AND SENTIMENT AS EXPRESSED IN LITERATURE, AND THAT HE IS AT TIMES SURFEITED WITH TECHNICAL MATTER. SHORT, CRISP CONTRIBUTIONS ON ANY OF THE SUBJECTS NAMED IN THE SUB-HEADING ARE INVITED TO THIS DEPARTMENT.

MARRIAGE HINTS.

REASON should be consulted—that is, if love will allow it to have the floor for a single moment. The truth is, however, if one might use a term prevailing in pugilistic circles, that in love matters reason is like to be most hopelessly "floored." It were well indeed if, before it is too late, men might have an eye to Benjamin Franklin's advice in regard to large families and the age of marriage.

Mr. Henry T. Finck, in his fine book on Romantic Love and Personal Beauty, has collected some statistics, concerning which Mr. Galton observes: "One of his conclusions was that morality is more often found among members of large families than among those of small ones. It is reasonable to expect this would be the case, owing to the internal discipline among members of large families, and to the wholesome sustaining and restraining effects of family pride and family criticism. Members of small families are apt to be selfish, and when the smallness of the family is due to the deaths of many of its members at early ages it is some evidence either of weakness of the family constitution, or of deficiency of common sense, or of affection on the part of the parents in not taking better care of them. Mr. Holland quotes in his latter to be a piece of advice by Franklin to a young man in search of a wife, to take her out of a bunch of sisters, and a popular saying that kittens brought up with others make the best pets because they have learned to play without scratching. Sir Wm. Gull has remarked that those candidates for the Indian service who are members of large families are on the whole the strongest."

A second bit of advice given by Franklin is, perhaps, less unquestionable: "From the marriages that have fallen under my observation I am rather inclined to think that early ones stand the best chance of happiness. The temper and habits of the young are not become so stiff and uncomplying as when more advanced in life; they conform more easily to each other, and hence many occasions of disgust are removed. . . . 'Late children,' says a Spanish proverb, 'are early orphans.' With us in America (1768) marriages are generally in the morning of life; our children are, therefore, educated and settled in the world by noon; and thus, our business being done, we have an afternoon and evening of cheerful leisure to ourselves. . . . By these early marriages we are blessed with more children; and from the mode among us founded by nature, every mother suckling and nursing her own child, more of them are raised. Thence the swift progress of population among us, unparalleled in Europe".

"Marriages," says Theodore Parker, "are best of dissimilar materials"; and Coleridge remarks, similarly: "You may depend upon it that a slight contrast of character is very material to happiness in marriage." But would it be possible to present two individuals who did not present "a slight contrast of character"? Coleridge did not, apparently, think much of the average conjugal union of his day: "To the many of both sexes, I am well aware, this Eden of matrimony is but a kitchen garden, a thing of profit and convenience, to an even temperature between indifference and liking. What a married person wants is a soul mate as well as a house or yoke mate."

Young men are often warned not to marry for beauty, because it is but skin deep. But surely a millimetre of beauty is worth more than a yard of ugliness, though whitewashed with rank, money or general utility.

SUGAR AN EXCELLENT FOOD.

MUCH has been printed about sugar: scare heads and points "made to tell" (if nothing else) as to its unwholesomeness, its poor food value, the diseases it leads to, and its adulterations; an equally foolish extreme has been reached in articles on letting a child have what it wants when it wants it, and the like. Mrs. Mary Hinman Abel disposes of a great deal of nonsense regarding this sweet in Farmer's Bulletin 535, a sane, precise and comprehensive account of Sugar and Its Value as Food[1]. Meat has been a food ever since man could catch and tear to pieces his prey, or could grasp a stone or fashion a weapon with which to kill; bread has been the staff of life perhaps as long: but only in the forties of the last century did sugar come into general use. Some sixteen million tons of sucrose sugar are cropped annually in the world; and of this the American people consume nearly 82 pounds per capita. And, considering the energy this food furnishes, it should stand very near the head of the dietary list in point of economy. It should be a poor man's food; ten cents worth of it at six cents the pound would furnish some 3,000 calories, which, for a carbohydrate is coming it very well indeed. Sugars, of whatsoever grade now marketed, are practically pure, (if for no other reason), simply because the low price of cane sugar by comparison with substances which might be used for adulteration, protects the finished product from such attempts. Adulteration would not pay, because the starch, lime water, sand, finely ground rock and the like, alleged to be used, would cost more to buy or to prepare than the sugar itself. Nor does sugar, eaten moderately, produce gout, or cause diabetes or harm the teeth. A great deal of sugar is consumed for its flavor or as an addition to food; but our people should learn to recognize its great intrinsic nutritive value—which is enhanced by its ready solubility. Sugar should be added freely to the dietary of the undernourished, invalids and children. If extreme sweetness is objectionable the mildly sweet milk sugar should be used to fortify the "food-intake." In many American families about two pounds of sugar are consumed every week by each member. Such amounts are reasonably wholesome as they certainly are strengthening. Perhaps, for the present at least, such limits had best not be exceeded, for "the question of possibly permanent injury from the use of fairly large amounts of sugar seems to be an open one." Of course, here as in everything else in the cosmos, temperance is the word. "Candy is delicious," observed a gentleman in *Patience;* "but candy for breakfast, candy for lunch and candy for dinner, *might* pall." And, as sugar is a concentrated food, it will be best digested when incorporated with other materials—puddings, fruits, ices and the like, which dilute it or give it the necessary bulk. Water should be drunk freely when eating sugar.

[1] Any citizen may have this bulletin by applying to the U. S. Dept. Agriculture, Washington, D. C.

THE OLD POSTERIOR OPERATION.

"I SEE they have operated on a Philadelphia boy's head to make a better boy of him."

"That isn't where my dad used to operate on me to make a better boy of me."—*Houston Post.*

SAFE ON FIRST.

MOTHER (looking through magazine)—Darling, I see from statistics given here that every third baby born in the world is a Chinese.

Father (fondling his first born)—Then, thank God, this is our first.—*Everybody's.*

EUGENIC.

SUSIE (aged 6)—And when we grow up we'll be married, won't we, Tommy?

Tommy (sadly)—No, Susie, I can't marry into your family. Your papa has weak eyes and your auntie has spasms.—*Free Lance.*

HOW ABOUT YOU?

"IT is a well known fact that mostly everybody has a well-developed bump of curiosity," said the practical man.

"Think so?" inquired the other.

"Yes; most of the people who see this paragraph will turn the book upside down."

—S. C. Clark in *Lippincott's.*

HOT ICE.

We have ever with us hot air, more than plenty, especially near election time—but very little hot ice. All there is so far of the latter seems to have been made by Professor Percy W. Bridgman, of Harvard University. And this ice is so hot after it has been frozen that it will boil alcohol, its temperature being 173° F. To make hot ice Prof. Bridgman puts water in a specially constructed steel bottle which is able to withstand a pressure up to 20,000 atmospheres—equivalent to 300,000 pounds to the square inch; though this is not his limit, for he has attained pressures up to 24,500 atmospheres, or nearly 400,000 pounds to the square inch. Since the ordinary atmospheric pressure on the surface of our bodies is about 15 pounds to the square inch, we must admit Prof. Bridgman has certainly achieved some pressure—indeed, ten times as great as in our mightiest cannon. The water is first heated to 173° F.; despite this temperature the H_2O becomes solid and remains so as long as the hydraulic pressure is applied.

Perhaps it is just as well there isn't any of this kind of ice at present in nature, or any manufactured outside the laboratory, for the reason we shall presently see.

The scientific world knows now of five kinds of ice, as indicated in the accompanying diagram, which depicts the temperature ranges and the pressures within which each type of crystallization (that is, conversion of fluid water into solid ice) normally occurs. (0° C.=32° F.; 173° F.=78.3° C.).

Ice I is our common or garden ice; and oddly enough it is the only freak ice in nature (except possibly ice IV, to be hereinafter mentioned). Ice I is a freak because it is a natural liquid which freezes to a solid lighter than the liquid itself. The science of physics knows of only one other freak that behaves in this way—liquid cast iron, which, like water, becomes lighter as it hardens. All the other of the five kinds of ice are "normal"—that is, they are heavier than the water from which they form. And as noted, there isn't much, probably not any of these forms of ice in nature; else they would sink to the bottom of lakes, ponds and seas as rapidly as formed, destroy all the fish, dam up every outlet, put every reservoir in existence out of commission, and make any kind of life, as we understand the term, impossible.

Ice II and III were first discovered and made by the German scientist Tammann. Bridgman discovered ice IV and V in the order stated. But Tammann thinks ice IV exists within ice I; perhaps the former represents a peculiar action in the latter due to dissolved air in the ice; for this reason ice IV is not represented on the diagram; and ice VI as shown represents the fifth ice, as at present isolated—the hot ice of Bridgman.

But how are these different kinds of ice evolved out of plain, everyday running water; they have all precisely the same chemical formula (H_2O); but like many "isomeric" compounds they exhibit different phenomena, behave differently. To illustrate: Oil of lemon and turpentine have precisely the same chemical formula ($C_{10}H_{16}$) their difference in taste and other qualities being due to the various ways in which the same number of similar atoms are arranged in respect to one another in the two substances. Any one will believe this who has been "up against" the turpentine flavor in a cheap, artificial "lemon extract," in ice cream or candy or lemon cake. The explanation of isomeric compounds behaving in different ways is that forces acting between the elemental atoms act only in certain directions from each other, and so produce different arrangements, and therefore different substances, under different circumstances. It is about the same with the five different kinds of ice; except that the principle is applied to the molecules of water, instead of the atoms of hydrogen and oxygen which form the water. It used to be assumed that the forces acting between aqueous molecules act from each molecule equally in all directions from the molecule; but now it seems they act only in certain directions.

What will these experiments lead to? They help to the formulation of an adequate theory of liquids, no present theory explaining all the known facts. And geophysicists will probably have to "guess again," since they have rather assumed that the interior of the earth is liquid; Prof. Bridgman's researches would go to prove that the earth's interior is solid, and very hot too, by reason of the tremendous pressure of the earth's surface.

NUGGETS.*

It is in the putting forth of the hypothesis that the true man of science shows the creative power which makes him and the poets brothers. His must be a sensitive soul, ready to vibrate to nature's touches. Before the dull eye of the ordinary mind facts pass one after the other in long procession, but pass without effect, awakening nothing. In the eye of the man of genius, be he poet or man of science, the same facts light up an illumination, in the one of beauty, in the other of truth; each possesses a responsive imagination. Such had Bernard, and the responses which in his youth found expression in verses, in his maturer and trained mind took the form of scientific hypothesis.—*Foster.*

The imagination of Darwin or Pasteur, for example, is as high and productive a form of imagination as that of Dante or Goethe, or even Shakespeare, if we regard the human uses which result from the exercise of imaginative powers and mean by human uses not merely meat and drink, clothes and shelter, but also the satisfaction of mental and spiritual needs.—*Dr. Eliot, of Harvard.*

Some day, perhaps, the mystery of life and being which presses on the physiologist as on other men, and indeed with a double man may know, not only what he is, but weight, may be solved. Some day, perhaps, why he is. To-day, after but three thousand years of history and three hundred of science, it is indeed difficult to imagine how this can be. We can only trust that it may be. Some far-off to-morrow may arrive when the clearer vision of a million of years of science and of history may fathom the secret and read the reconcilement of the hopes and the destiny of man.

"A hair, they say, divides the false and true;
Yes; and a single Alif were the clue,
Could you but find it, to the Treasure-house,
And peradventure to the Master, too."

—*Stewart.*

There is one quality the possession of which is the supreme need of the physician, without which he is as unfit and useless as a tone-deaf musician or a color blind painter; that is, the faculty of exact observation.—*Minot.*

Accurate observation is by far the most difficult art which mankind has ever essayed. A nation may count on furnishing abundance of military talent, plenty of politicians and statesmen, enough of competent lawyers; it may even hope to have gifted artists and authors; but it can scarcely expect to produce a single master of the art of observation in a century. In a century Germany produces one Helmholtz, France one Pasteur, England one Darwin—an American peer of these three is yet to become known.—*Minot.*

The most familiar sign of the public misconception is displayed in the effort of the daily press to furnish information on medical topics. With rare exceptions these efforts consist of sensationalism, personalities, wonder-tales, absurdities, and a general display of the haste and incompetence of the writer. Every medical article written for the public press should first be submitted to a competent medical expert for revision. More pernicious still is the influence of a score of semi-medical journals which cater to the taste for misinformation and absorb a large portion of the $50,000,000 paid annually in this country in the advertisement of quack medicines.—*Ewing.*

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*MEDICAL RESEARCH AND EDUCATION. The Science Press. New York, and Garrison, New York. The writers whose contributions make up this book are: Richard Mills Pearce, William H. Welch, W. H. Howell, Franklin P. Mall, Llewellys F. Barker, Charles S. Minot, W. B. Cannon, W. T. Councilman, Theobald Smith, G. N. Stewart, C. M. Jackson, E. P. Lyon, James B. Herrick, John M. Dodson, C. R. Bardeen, W. Ophüls, S. J. Meltzer, James Ewing, W. W. Keen, Henry H. Donaldson, Christian A. Herter and Henry P. Bowditch. And these eminent men have dwelt upon such vital subjects as: The Efforts of Isolated Investigators in Medicine, The Development of Laboratories for the Medical Sciences, Pasteur and the Era of Bacteriology, Present Day Methods and Problems, Medical Research in American Universities, The Public and the Medical Profession, The Experimental Method, Chance and the Prepared Mind, The Medical School of the Future, The Interdependence of Medicine and Other Sciences of Nature, Imagination and Idealism in the Medical Sciences, Medicine and the University, The Relation of the Hospital to Medical Education and Research, The Medical School as Part of the University, Liberty in Medical Education, Some Tendencies in Medical Education, Certain Ideals of Medical Education, The Career of the Investigator, The Outlook in Medicine, Problems, Methods and Organization of Research with Special Reference to Physiology, The Improvement of Medical Teaching, The Educational Function of Hospitals, Clinical Medicine.

The discoveries which have transformed the face of modern medicine have been in the field of infectious diseases, and in no other department of medicine could new knowledge have meant so much to mankind, for the infectious diseases have a significance to the race possessed by no other class of disease, and problems relating to their restraint are scarcely less social and economic than medical.—*Welch.*

We cannot agree exactly on what a "good doctor" is. Some will say "Practical"; some will say "Scientific"; some will say "Knowledge"; some will say "Heart."—*Lyon.* (The good doctor should be all of these.)

Wonderful as were the isolated achievements of the great discoverers in medicine in the early centuries, the great continuous advance in medicine during the past eighty years resulted from organized laboratory effort based on the principle of exact experimental methods; and it is the duty of the university so to organize its laboratories and hospitals that this advance of medicine by research may continue, side by side with teaching, as a university function of benefit to students and faculty as well as to the state and the general public welfare, and thus be an aid to the advancement of civilization.—*Pearce.*

It is well that the sciences of nature hold out attractions to so many different types of mind, for the edifice of science is built of material which must be drawn from many sources. A quarry opened in the interest of one enriches all of these sciences. The deeper we can lay the foundations and penetrate into the nature of things, the closer are the workers drawn together, the clearer becomes their community of purpose, and the more significant to the welfare of mankind the upbuilding of natural knowledge.—*Welch.*

Every citizen should be inspired with love of personal and public hygiene, as were the Greeks. Every physician should be deeply grounded in physiologic medicine and provided with proper facilities for using it practically. Every public health officer should know thoroughly the contributions of etiologic medicine. All efforts should be made to promote the most fundamental needs of society.—*Bardeen.*

He who purposes to study medicine should have in high degree three gifts, not one of which is common among mankind, yet all of which he must have: the power of reliable observation, intellectual endurance; loyalty.—*Minot.*

The die is cast, the book is written, to be read either now or by posterity, I care not which. It may well wait a century for a reader, as God has waited six thousand years for an observer.—*Kepler.*

We may regret the loss of many charming features which have been erased from the landscape of science by all of this minute specialization, of which no one can foresee the end, and such a sentiment is much the same and as unavailing as that for the return of the days of the stagecoach. The great instruments of progress in modern life—steam and electricity in the industries, subdivision of labor and increasing specialization in science—are not altogether lovely, but they are the conditions of advancement in material prosperity and natural knowledge.—*Welch.*

I like to think of medicine in our day as an ever-broadening and deepening river, fed by the limpid streams of pure science. The river at its borders has its eddies and currents, expressive of certain doubts and errors that fringe all progress; but it makes continuous advances on the way to the ocean of its destiny. Very gradual has been the progress of its widening and deepening, for it is a product of human ingenuity and artifice, and only skilled engineers could direct the isolated currents of science into the somewhat sluggish stream of medical utility.—*Herter.*

It is the privilege and duty of hospitals to extend their field of usefulness by opening their wards more freely to undergraduates in medicine, to elevate the standards of work done by nurses, internes, residents and attending staff, to foster research. By so doing they are not harming the patients, but are rather insuring them better and more skillful treatment. They are serving to enlighten and educate not only the individual, but the observing public as well, eager to learn and to be instructed in knowledge of medical matters.—*Herrick.*

BOOK NOTICES.

HYGIENE FOR THE WORKER, by Wm. H. Tolman, Ph.D., and Adelaide W. Guthrie (Crampton's Hygiene Series). New York, Cincinnati, Chicago, American Book Company. This book, by the Director and his Associate, of the American Museum of Safety, which has done so much for the safeguarding of the workman, presents in brief space and terse, plain language, based on actual shop conditions, and it sets forth in a practical way matters most important for good health, happiness and efficiency.

THE PEOPLE'S HEALTH, A TEXTBOOK OF SANITATION AND HYGIENE FOR THE USE OF SCHOOLS, by Walter M. Coleman, New York, The Macmillan Company, 1913. $.70. Cicero, twenty centuries ago, declared *saens populi suprema lex;* the health of the people is the supreme law. Now, in the twentieth century, the science of preventive medicine is demonstrating wonderfully how the people's health, upon which the stability and prosperity of any nation must depend, can best be maintained. Coleman has produced an excellent and most informing book on this subject, and it is well and profusely illustrated—a very valuable feature; for it is surprising how much can be learned from pictures alone.

THE SOLDIER'S FOOT AND THE MILITARY SHOE, by Edward Lyman Munson, A.M., M.D., Major, Medical Corps, United States Army. 54 illustrations. Approved by the War Department, Fort Leavenworth, Kansas. This excellent "Handbook for Officers of the Line" will be found most useful and enlightening by the orthopedist and by the general practitioner as well. Although it was intended for the soldiery, it will have decided application to the footwear of women who frequently, in obedience to the dictates of fashion, wear things on their feet that produce results comparable to those obtaining among certain of their Chinese sisters.

PYORRHEA ALVEOLARIS, by Friedrich Hecker, B.Sc., D.D.S., A.M., M.D., St. Louis, C. V. Mosby Co., 1913. $2.00 net. Dr. Hecker, after careful observation covering a number of years, believes that Pyorrhea Alveolaris (Riggs' Disease) is the result of constitutional and exciting causes which lower the vital resistance of the alveolar process, the gum and the peridental membrane; the alveolar disease exists because the body is out of harmony physiologically. From the physician's viewpoint and understanding we believe that Dr. Hecker is right; and that his book is unusually well worth the medical consultant and the family practitioner's study. The author demonstrates a case in which pyorrhea has been artificially produced in a guinea pig. He dwells on the autogenous vaccine treatment. The book is superbly and informingly illustrated.

DORLAND'S AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, M.D., editor "American Illustrated Medical Dictionary." Eighth Edition, Revised and Enlarged. 32mo, of 677 pages. Philadelphia and London: W. B. Saunders Company, 1913. Flexible leather, gold edges, $1.00 net; thumb index, $1.25 net.

It is said that one's ordinary vocabulary seldom goes beyond several thousand words. And although the practitioner must have a medical lexicon in his library, he will ordinarily need for ready reference to know about several thousand medical terms only. For the latter purpose Dorland's is altogether adequate. It is superbly bound; and this eighth edition defines several hundred more words than did the seventh.

ANATOMY AND PHYSIOLOGY FOR NURSES. By LeRoy Lewis, M.D., formerly Surgeon to and Lecturer on Anatomy and Physiology for Nurses at the Lewis Hospital, Bay City, Michigan. Third Edition Revised Thoroughly. 12mo of 326 pages, with 161 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $1.75 net.

A nurse (despite the opinions of some authorities) does not need to know so much about anatomy and physiology as a doctor has to, or ought to know. She needs, however, to acquire the established and essential facts in these sciences. Such facts are simply, comprehensively and adequately set forth by Dr. Lewis. A valuable feature of his volume is the set of review questions at the end of each chapter.

NURSING DEPARTMENT.

EDITED BY FRANKLIN W. BARROWS, M. D.

THOUGH WIDELY DIFFERING IN FUNCTION, THE ULTIMATE AIM OF THE NURSE IS THE SAME AS THAT OF THE PHYSICIAN, THE RELIEF OF SUFFERING AND THE SAVING OF LIFE. CULTURE, HELPFUL INFORMATION AND A BETTER UNDERSTANDING OF RELATIONS, LEADING TO AN INTELLIGENT CO-OPERATION IN THIS COMMON AIM, ARE THE OBJECTS OF THIS DEPARTMENT.

THE CHILDREN—GOD BLESS 'EM.

I have no hesitation in saying, from a wide experience, that a due amount of care has never yet been bestowed upon the young human being.—Clement Dukes.

IF this broad assertion by one of the leaders in pediatrics causes you some pangs of conscience, there is yet hope for you! Who ever understood a child? What one among us all has ever had the wisdom and the love to treat a child with absolute fairness? The children are our accusers to-day, even with all our boasted advancement in their protection and care. The children are challenging us to give them a better chance, if we expect a fair return from them.

The forces of society were never better organized than to-day for studying and investigating child life. Never before have we had so many appliances for improving the physical and intellectual conditions of childhood. Whether we are making the best use of present opportunities only time can tell. Surely every parent, every physician, teacher, and nurse ought to know that by taking an interest in the children all the resources of society may be commanded for their benefit.

It is for the purpose of improving our understanding of the child, and especially some of the ill-favored types of children, that we print this month the excellent paper by J. H. Buchanan. A study of this paper will doubtless bring to the minds of our readers individual instances of children who have been misunderstood and neglected or mistreated. What can we do for such cases? It should be our business to find out forthwith.

Many superstititons and traditions from the dark past have to be overcome before the child of this enlightened age can receive justice at the hands of ignorant parents or nurses. Many a child is allowed to suffer torments from pediculosis because his friendly parasites are supposed to act as a preventive of the diseases incident to his age—a sort of living health insurance which costs him nothing and covers about everything.

A week ago the writer was pleading with a mother to induce her to have her child treated for a nasty running ear. No. It would be dangerous to cure the ear and drive this drainage to another part of the body. The badness was running out of the boy all right, and as long as it kept running the mother was pleased.

Children are popularly supposed to "outgrow" all sorts of physical and mental troubles; the worse the defect the more likely to disappear when the proper age arrives for that particular kind of elimination. A boy in a private school was found suffering from eyestrain and a chronic inflammation which disfigured the eyelids. The school medical inspector advised his parents to place the boy under a doctor's care, but the mother said it would be unnecessary, because her neighbor, who had seen a similar case in the Old Country, assured her that her boy's eyes would be quite well when he was twenty years old. As the boy had only nine years to wait for a spontaneous cure and nothing much to do in the meantime but go to school, of course it wouldn't be worth while to bother with a doctor.

If some thrifty folk managed their business as they do their children they wouldn't have any business. But business is business and children are only "kids"—and plenty, at that.

Sometimes it is the doctor who needs to be reminded that children have rights, even though they may be his patients. We have just learned of a lad who was taken to the hospital and properly chloroformed by one doctor while another doctor proceeded to "operate" on his adenoids. When the affair was over the operator explained to the mother that he had only *lanced* the adenoids. She is now looking for another doctor who will remove them.

Let us learn to know the children better, and let us stand up for their rights as firmly as we would stand for our own.

TEN YEARS AGO.

THE GAZETTE of January, 1904, published a few comments from the *New York Herald* on the Nurses Registration Law of 1903,—among them this:

> There is but one remedy for the protection of the young women who have given up three of the best years of their lives to fit themselves for their profession against the unprincipled and dishonest women who are willing to lend themselves to the monstrous fraud of graduating from a "school of correspondence," and that is registration.
>
> The chief obstacle in the path of making the law of greatest benefit to "trained nurses" is their apathy in registering. Doctors urge that fifty or a hundred nurses cannot make the title of registered nurse of much significance, and that the law should be obligatory. If this were the case people would soon come to expect that every nurse should be a registered nurse, and by this means completely foil the business of those fakirs who foist upon unsuspecting patients women who have been theoretically and not practically trained.
>
> The schools of correspondence and many of the so-called sanitariums are bringing disrepute in the profession of "trained nursing." Like the employment agency, it is to their financial benefit to demand as high a price as possible. They receive a certain commission for obtaining the position and by this means send out a class of nurses utterly incompetent, to whom is paid twenty-five to thirty dollars a week, and who are ignorant of the first principles of the sanitary requisites of modern surgery.
>
> Each State has its own separate system growing out of its own separate needs and conditions. But, for the most part, the laws of the different States follow a definite plan, and are designed to accomplish practically the same ends. New York has perhaps a more complete system of laws than any other State in the Union, and it is generally acknowledged that its standards of education are higher than the standards in nearly all the other States. No attempt was made to have the New York law prevent any one who is not registered from practising the art of nursing. Its purpose is to establish the title of "registered nurse," and to prevent any one who is not registered from using that title. The so-called natural nurse will be permitted to ply her vocation, but by bringing a definite meaning to the title "registered nurse" the public is enabled to differentiate the skilled from the unskilled nurse.
>
> One very material benefit resulting to the public from the passage of the Nurses bill must be the raising of the standard of the training school. When those desiring to enter the profession understand that before they can stand an examination for the title of "registered nurse" they must take a course of training in a training school, maintaining a standard approved by the Regents of the University of the State of New York, they will be very careful to enter only such schools as meet this requirement. In this way the correspondence schools and the so-called schools conducted by individual physicians, with regard for their own convenience and with little regard for the future of the nurse, will find great difficulty in securing recruits, and the tendency will be to either force them out of business or to compel them to increase their standards until they are schools in fact as well as in name.

When this was published the nurses were writing their prophecy. For the past ten years they have been making history, and any one conversant with this history can tell how accurately the prophecy has been fulfilled.

It is true that the standard of the training school has been raised and many schools have found it to their interest not only to improve their courses of study but to apply for the endorsement of the New York Board of Regents. It is also true that the sub-standard training schools and the correspondence schools have, according to the prediction, improved their courses until to-day some of them "are schools in fact as well as in name."

And now, how about the prediction that the lowest grade of schools failing to "increase their standards" would be forced "out of business" as a penalty for their lack of proper interest in the advancement of the trained nurse? If many schools have been closed on this account during the past ten years the news has not come to us. On the other hand, we think there has been a steady increase in the business of the sub-standard schools and the much maligned correspondence schools. Indeed we read complaints and lamentations issuing from the leaders of nursing organizations, the burden of their sorrow being the multiplication of these pests which their legislation was designed to kill or cure.

Need we point out the cause of this partial failure of registration to "make good" in one decade? It must be plain to all friends of good nursing that "apathy in registering," which was the chief obstacle to the success of the law ten years ago, still holds the chief place as a menace to the trained nurse of to-day. It is the apathy of the nurse and not the apathy of the public that still makes our people indifferent to the rival claims of the skilled and the unskilled nurse; many people do

not want to "differentiate" them and to many others the only important difference between nurses is, as it was then, the difference in the dollars that they demand.

Another reason why registration has not done all that was predicted of it is that "the so-called natural nurse" is permitted to "ply her vocation" without registering, precisely and altogether as if nothing had ever happened on this planet to "raise the standard" of nursing. The law ignores her and that is all she asks of the law; she can do the rest without any help, for she has no "standard" waiting to be "raised." It is only her price per diem that she shrewdly raises as she goes on her way free from care!

The nurse of a decade ago thought that by ignoring the sub-standard training school, the correspondence school, and the untrained nurse she could squelch and asphyxiate the whole lot. She tried it. Now she is wondering why these "lesser breeds without the Law" are bothering her so awfully.

Does registration pay? We still hear the question from our latest graduates the same as ever. Yes, if registration registers it surely pays.

Does THE GAZETTE believe in registration? Yes, and consistently, too. We have always advocated the registration of *all* the nurses, with differentiation right on the pages of the register and on the nurses' certificates. We don't care what you call the non-graduate, under-trained, practical, natural nurse. You may register her as Grade II or Grade III or Group B or C, you may call her assistant, attendant, helper, or any old thing, but people will keep on hiring her just the same and they will persist in calling her NURSE. "It's ENGLISH, ye know."

Our State boards might just as well, while they are about it, register and supervise the untrained nurse by properly framed legislation and business-like methods of inspection. She works. Why shouldn't she be watched, just as much as her superior sister with a diploma?

Whatever you do, O Powers That Be, pray do not ignore the untrained nurse! Enough of the past. It does not pay to ignore anybody in a democracy like ours. They tried to ignore *us* once, but now even the committees on legislation are agitating the very plans that we proposed years ago.

Some people get ten years wiser in a decade—some less.

EQUALIZING "THE SOCIAL AVAILABILITY OF THE TRAINED NURSE."

THIS "is one of the most momentous matters with which the profession of nursing has to concern itself." So says Dr. Richard O. Beard, of the University of Minnesota. He refers to the supplying of nurses to people of moderate means, and he suggests a plan which is noble in that it calls for an unestimated amount of personal and financial sacrifice on the part of trained nurses and then some more from the philanthropic public to make up the deficit. At least, so we understand him to say in his address before the American Medical Association, printed in their *Journal,* from which we quote. After explaining how he would clear the untrained and under trained nurses off the map by forbidding the graduation of nurses from any but the standard schools, he next considers the problem, how "to equalize the social availability of the trained nurse," by which we understand that he figures on giving every sick patient an A No. 1 trained nurse and hopes to have his plan working "in an immediate to-morrow" as he says in another place. This would be going some, for sure!

Here is the problem in a nut-shell:

> "At present, between that part of the public that can comfortably pay the fair wage of trained nursing and that part of the public which receives or should receive its trained nursing through the medium of organized relief, there are large classes of the people who are altogether unable to meet the expense of such service or who, meeting it, are financially disabled by the drain on their meager resources."

We are just as much interested in the welfare of these people as is the Doctor or anybody else, and so we read his solution of the problem with eagerness. He begins by clearing the arena once more of all inferior beings and leaving the trained

nurse monarch of all she surveys. At least so we understand from the following:

> The proposed training and graduation of women of less adequate preparation, to be known as "nursing assistants," etc., and to work for lower wages, is no real solution of this very serious problem.
>
> The plan evolved by a committee of the American Hospital Association and presented by Dr. R. H. Babcock of Detroit is an ingenious attempt to meet the economic situation in nursing, but, in my judgment, it is as unpractical as it is undesirable. This plan proposes the creation and recognition of three classes of nurses, to be known as Class A, Class B and Class C; Class A to represent the full-fledged graduate nurse of the standard schools; Class B to be known as that of the "certified nurse," who shall have a single year's training in the schools and who is to be used, theoretically, for minor cases, at a lower wage than that paid to the graduate nurse; and Class C, to include nurses with an uncertain and unrequired quantity of that nondescript and dangerous thing known as experience, who shall be called "household nurses" and shall work for any wage they can get. This report suggests some mechanism for the distribution of these nurses, but it does not outline its origin or functions. Such a mechanism of distribution would probably fail of creation in most communities and would probably fail of operation if it should come to birth.
>
> How would it be possible to label the nurses of Classes A, B and C so that they could be recognized by the people at large? How could the public differentiate between the graduate nurse and the nursing-neophyte? It is quite possible that the so-called experienced nurse, who, like the poor, has been always with us, would not need to be tagged. By what species of regulation could sub-standard nurses be confined to a smaller wage? Would they not, with the gathering of experience, compete sooner or later on equal monetary terms with the better-trained graduate nurse? What inducement would there be for them to return to the training-school for additional courses if they could climb by the easy, slow stages of such experience to a better paid practice? Should they be designed for the care of minor cases, for the nursing of which they might prove sufficiently competent, by what mechanism could they be prohibited from the care of cases for which they are not fit?
>
> Would the well-to-do of the public consent to the employment of a nurse of Class B, if they knew her as such, simply because they had a minor case of illness to care for? Would not the system resolve itself into a subdivision of the public in the patronage of nurses according to its ability to pay for them? Would not cheap nursing, in point of quality, prove the inevitable resultant of the creation of nurses of a cheap class?

Surely this is a formidable lot of objections to the "mechanism" proposed by the mechanics of the American Hospital Association. We would be persuaded already to reject their plan with disgust if—and only *if*—the alternative proposed by Dr. Beard presented any feasible elements that are likely to be realized in his "immediate to-morrow." In point of generosity he rises to the sublime. He gives the trained nurse everything in sight, only provided she takes good care of it all. Says he:

> After all, the ends of social justice are not met by the provision of nurses of grades of training varying with the financial status of the employer. In the emergencies of illness the right and the demand of every man is for the highest available help. The public and the nursing profession alike would be better served by the creation and by the subscriptive or endowed support of some such mechanism as "the nurses' guild," which should provide homes for temporarily unemployed or resting nurses and should maintain an adequate supply of graduates under guaranteed employment for eleven months in each year, to be subject to physician's certified call on a scale of charges graduated to the circumstances of the sick. The profession of nursing must find some such means of standardizing its services for the benefit of society. It must acquire some elasticity of method in its business dealings with the community.

This is certainly an ideal conception—not what you would call a working mechanism just now—and that is why we prefer the plan of the American Hospital Association which appears to us to be dealing with living conditions. Would Dr. Beard start in with his scheme right now or would he wait until the present supply of practical nurses have died a *natural* death and the trained nurses have increased twenty-fold or an hundred-fold?

The author of this plan inspires it with the highest motives. He tells the trained nurse that hers is a "profession of privilege, but it is the privilege of service." "Freely it has received; it must freely give," and "it must have the will and the wit to adjust itself to all sorts and conditions of men—to meet and to fulfill every form of social demand," He says these things grandly and every true spirit will acknowledge his motive as the one by which nurses should be actuated. But he is asking too much of his ideal nurse! Even if there were enough trained nurses to carry out his scheme of service, it is not right that they should be called on to work for less than a living wage; some of them have relatives dependent on their earnings. It is not right that the charitably disposed

members of the community should be called on to eke out the living of this army of trained nurses, whom they help to train in endowed hospitals and schools. Why is it not right? Because the service of which we are thinking is a service rendered to self-sustaining and self-respecting people who do not ask us for charity but merely for such help as they can afford to hire—people with moderate incomes, who live in small homes, dress plainly, eat moderately, live frugally and pay their bills, people who would have the best if they could afford it but who ask and accept no favors if only they can enjoy life's comforts without its luxuries. One of these luxuries is the trained nurse.

If it is worth while to preserve the health of this large class is it not worth while at the same time to preserve their social independence, their self-respect, and not to hand them as a gift that which they would prefer to buy like other people?

Then there are the partially trained and "experienced nurses" who are in the same economic class—the Bs and Cs of the Hospital Association's plan which was fully described in THE GAZETTE for last December. They are not first-class, but they offer their services at reasonable prices to people who cannot afford the best. Let us have some plan of bringing these nurses forward and making their services useful and safe by a well-organized system of supervision and instruction. This will give the high-minded, trained nurse ample opportunity for exercising her skill and her patience, and will multiply her service to humanity many fold through the help that she gives in teaching others to help.

We cannot pass Dr. Beard's dignified presentation of this subject without another tribute to his high ideals, but we feel that in effect he is too severe with the trained nurse and the charitable public and too easy on the man of moderate means. He has not outlined any clear plan for eliminating the substandard nurse. We therefore prefer at present and in the "immediate to-morrow" to keep the untrained nurse busy, but to put her and her work under the supervision of the trained nurse—thereby teaching both to be more humble and more useful. We have long been impatient with the trained nurse because she does not realize this opportunity for service and make the most of it. We hear a great many fine things now—and some of them we say ourselves—about the teaching functions of the nurse. The nurse as a teacher! It is a splendid theme.

Well, in the course of time the nurse has been called upon to teach almost everybody, with the exception of her poor, despised sister, the untrained nurse. Isn't it about time for her to begin this good work, on her right hand and on her left, for the benefit of a long-suffering public? By this means the trained nurse would certainly help to equalize her "social availability."

"PSEUDO-ATYPICAL CHILDREN FROM A PHYSICIAN'S STANDPOINT."

BY J. HERVEY BUCHANAN, PLAINFIELD, N. J.*

I am to speak on what I may term pseudo-atypical children who are apparently backward, whom you meet every day and at first impression set down not as mentally deficient but as mentally slow; who have intelligence, horse sense and ability, but who lag behind in class, and like the slowest ship in the fleet hamper its onward progress. Children who slowly grasp their teaching, whose dwarfed mental growth is dwarfed, though correct so far as they get it. These are the children who need our discernment, who must be studied as to just where lies the difficulty in acquiring instruction, who in justice to themselves must be placed under care to remove the causative defects, and who must be differentiated from the truly atypical children whose mentality is at fault. And I shall try and explain some of the causes producing this pseudo-atypical condition, to enable you to detect them, and express to you my own idea of the pseudo-atypical and atypical child. And in doing so I want to discuss some of the fundamental principles of existence.

*Lecture given before the Training Course for the Teachers of Exceptional Children, under the auspices of the National Association for the Study and Education of Exceptional Children, Plainfield, N. J.

All life is the expression of stimulus and reaction—cause and effect, if you choose. You and I in every phase of our existence are simply examples of activity engendered by impressions received from without. And the simplest expression of this is the typical reflex of your physiological studies. Thus if I sit in a chair and let my leg hang limply over its edge, a sudden light tap on the tendon below the knee cap will cause it suddenly to kick up. This is the tendon reflex of the knee or knee-jerk; and a highly important symptom in certain cases. Now what has happened is, that the area over the tendon contains many terminal fibres of nerves leading to the spinal cord. Being struck or stimulated suddenly, they send that impression up along the nerve leading to the spinal cord and to certain groups of cells known as centers. Here this transmitted stimulus is received by the sensory cells and transmitted to the motor cells which change it to a motor impulse; and back along the motor nerves goes an impulse or impulses that cause the muscles to contract suddenly, and as they contract, cause the limb to kick. And this same principle holds good everywhere. The heart beats because its muscle fibres contract and act from motor impulses that are changed into sensory impulses from the passage and content of the blood itself. Digestive juices appear in the stomach because the digestion of food gives a stimulus that passes to a proper centre and comes back in a motor impulse that causes its cells to secrete. And so for every act of life, there is a reflex essential, simple or compound, upon which its performance depends. So now to reduce a reflex to its component parts we find that these are five, to wit: An area of sensory reception; a transmitting link or avenue known as the afferent or sensory pathway; a governing centre that receives the sensory impulse and transmits it to a motor impulse; a second transmitting link, known as the efferent or motor pathway; and finally the motor terminal where the impulse sent back finds its expression in actual work. It needs no discussion to prove that the perfect action of this simple reflex—and compound reflexes are but combinations of simple reflexes—demands for its performance a perfectly balanced and normal action. In short, it must be typical to produce a typical result. If the sensory receptive area be lost, no impulse is received and no action results. If the afferent pathway be cut, no action takes place and if damaged, action is correspondingly perverted. The same facts hold for the other phases of reflex activity, so that here you may begin to get an inkling of why certain processes rated as normal show changes as the result of diseased factors operating in the body. Now what holds true in the strictly physical sphere likewise holds true in the psychical being. The mind becomes active and trained through stimulations transmitted and transmuted in a similar manner. Just what the higher phases are I am not enough of a psychologist to determine, if indeed anyone is; but this we do know, that the brain has countless centres that receive impulses from sensory areas, and the special senses along special pathways; that these impulses are transmuted into either mental photographs or intelligent action through this reflex principle vastly complicated by cross connections and associational paths. And education as we term it is largely the continued reception and storage of these countless sensory stimuli transmitted along these receptive paths. You will see why I have taken this subject up in this way, when I state that to my mind the difference between the typical and the atypical child is this: namely, that in the typical child the whole reflex chain is perfect, in the atypical child the last phases are imperfect. While both may have equal sensory receptive capacity and may transmit impressions equally, the typical child shows the typical reactions while the atypical child does not. In other words it is a difference in action or ability for action in the last phase of the reflexes, that makes the distinction as I view it. And right here lies my idea of the pseudo-atypical child, namely, one in whom the final phase is typical, but whose receptive phases are impaired—in other words action or results are atypical, because stimuli are not properly received or transmitted. These are the cases where effort must be made to detect what is lacking or wrong in sensory area or pathway and remedy it. Believe me it sometimes takes a lot of keen intuition to do it. Often has a child been condemned and scolded for backwardness when the fault lay wholly in the sensory phases, which delayed or distorted stimuli to the terminal phases that were absolutely perfect in every way. You cannot expect a child handicapped by such factors to acquire proper instruction. Of course in this view I am making three distinctive classes, but I need not stop to add

that an atypical child may be handicapped by the same sensory failures as the pseudo-atypical. Such cases are common and add greatly to the difficulty of treatment and study.

But to resume, What are some of the common causes operating in the case of the pseudo-atypical child? I shall make no attempt to classify on the basis of relative occurrence and importance, but simply to note the common conditions that are daily seen, with some hints as to their detection. First of these is deafness. This condition is not uncommon. When very marked it is evident, as a rule, to casual observation. There is a class of deafness, however, that is not so evident and may remain undiscovered unless careful observation is brought to bear. Such cases, for example, will hear only a high sharp pitched or a low pitched tone and will gather information in ordinary voice from unconscious lip reading. Some cases will be just sluggish enough to hear as a confusing mass of words any conversation or speech that is not slow and distinct, and pride will not allow the unfortunate one to ask repetition; thus but part of the stimulus will be active. Again, deafness with or without these peculiarities may be confined to one ear and not the other; and the good ear being out of receptive line may be obtuned to that extent, so interference with the Eustachian canal by pressure of enlarged tonsils or (turgescent) adenoids may cause difficulty in hearing more or less lasting. And finally inflammatory diseases of the ear may cause or have left sufficient thickening of the essential membranes to modify sound interpretation, especially if there be associated with it a buzzing or "roaring" in the head. And you can readily see how in such conditions stimuli in this direction would be so altered as to send an impaired, and for purposes of education, a misleading impression to the brain.

As proof I will cite a case in my own practice. I have a young child, say three years old, who to my mind is a pseudo-atypical child. He is a puzzle, in a way, and yet not so much of a puzzle either when you analyze him. He is naturally bright but he will not talk, or would not till recently and the secret lies in a congenital weakness of hearing. He would notice a sharp sound and look up. Ordinary conversation he paid no attention to. What has been the result? Exactly this—no effort to talk other than an animal squeal at times, because he has had no proper stimulus through the auditory pathways to make any impression on his lost phases, as to names of things and the ordinary phrases of conversation. To put it in plain English, he couldn't be taught because he did not hear. He transmitted no proper sensory stimuli to act on his terminal phases and evoke the reflex actions, memory-pictures and associations. And yet those terminal phases are normal and the child in my view is therefore not atypical, but pseudo-atypical; and the proof lies here. I have had two specialists examine the child and both reported him practically deaf and advised removal of adenoids and tonsils to clear the Eustachian tubes from obstruction. Such was done and since then there has been improvement and the child notices sounds better, is acquiring a vocabulary, and is responding to auditory stimuli in a way to show that this and this alone was the cause of his backwardness. But how are you going to determine such conditions? In the first place by eliminating other factors as possibilities, and secondly by trials of hearing when the child does not expect it. Questions are asked in varying tones and pitches of the voice and without the child observing the lips. Inquire as to the history of the ears—has he had or does he have earache or running ears? Has he ever had measles or scarlet fever? Has he ever been injured? Has he had any very prolonged treatment for malaria or rheumatism? Through such observation you will not make a mistake, especially if in other respects, in activity, brightness of eyes, good healthy looking skin, etc., he seems normal. And having your suspicions verified by repeated tests, report it to your school physician, or if none be available to the family that action may be taken to remedy it and remove if possible the obstacle to the child's mental growth, which is his right.

Another most important avenue of sensory reception is the sight. Boston isn't the only place where spectacles are or should be in vogue. There is a very high percentage of defective sight in young children, sad as the fact is. Such cases sometimes are very baffling, especially if a routine examination of the children is not practised. The principal troubles are far sight, near sight, astigmatism, and eye-strain. Many a child with far sight can see the blackboard clearly, but cannot clearly read or discern the smaller print of his text

book. On the other hand, many a child with near sight can see books clearly, but cannot read the board. I speak on this phase feelingly, for it was my own personal experience. My public school days were of little use to me, since I learned parrot-like from my books and could not take in blackboard demonstrations. I did not know and my parents did not know and the teacher did not know, why I was so dumb—certainly my ancestry had many able men in it in Scottish history and I never did know why I was backward till chance gave the solution and a pair of glasses put me in the whole world instead of the half only of which I had been cognizant. So too, astigmatism with its varied lens curvatures in different axes gives a distorted view and to that extent impairs sensory reception. And again numbers of children can by straining the eyes have fair visual capacity and yet so try the eye by continued effort that the strain will cause headaches, fullness of the brain and local congestions sufficient to alter the stimuli presented and to some extent vitiate their action. And so with various organic lesions, deposits and the like, though fortunately these are generally recognized and corrected before much influence has been exerted. And how are you going to estimate eye trouble? Exactly as in troubles with the ear, by observation. Test the child for far sight and near sight by the board and book, or better still by a card of eye type. Test roughly for astigmatism by a staff held upright at different angles, testing each eye separately. Watch for eye strain by observing whether the scholar has to squint. Does he frown? Does he shade his eyes at work? Do the whites redden, the lids inflame or water? Does he have headache, especially after some close application of the eyes; and if so, is it in the temples or in the occipital regions? Do the spaces under the eyes puff and swell? If any of these symptoms are persistent, you may rest assured that however well up he may be, he is getting results only by effort which in a normal condition would make him exceptionally bright. Defective eye sight and hearing have assigned the stigmata of backwardness and slowness to many a child whose intellect was absolutely normal, but whose stimuli were lessened or perverted. Taste, smell and feeling have less bearing on the subject of the pseudo-atypical child than the other special senses; yet they do have some, though I shall take no time in discussing them.

Leaving the special senses, I pass to very common and potent factors in the interference with the education of the pseudo-atypical child. I refer to enlarged adenoids and tonsils. The time is not so far distant when such a thing as operation for enlarged adenoids and tonsils was unheard of. Even to-day many parents will tell their physician that they do not consider it necessary—they never had such things when they were young. Fortunately, however, the opposite is the rule, and in every community there are so many marked cases of improvement following the removal of these parts that parents now often seek to have it done. In fact, I think it is overdone at times. What then are adenoid growths and what are tonsils? The term "adenoid growth" or "adenoid" means gland-like, and is used to designate a soft, spongy, fluffy tissue of cells like a lymph gland, that arises and springs from the mucous membrane of the pharynx and particularly the nasopharynx. Of no functional use, like a mass of soft warts in the hand, they cause trouble by bulk and interference rather than by any functional disturbance. Rarely can they be seen from the mouth, and their diagnosis depends on the general symptom-complex and the exploring finger. As a rule, when large enough to give trouble, they do so: either by closing the pharyngeal end of the Eustachian tube and so interfering with the pulsations of air from the ear drum, as a kettle drum is muffled when you place your finger over its vent; or they block the openings of the nostrils, either completely stopping or seriously impeding the function of nasal respiration; or they invite a catarrhal condition and favor the lodgment and proliferation of pus-infection and the formation of a continuous stream of muco-pus. In any of these three ways (and they may all be present at once) the patient has a constant sense of annoyance, he feels stuffed up, his head is not clear and his brain works poorly. Because of the distraction caused and the more or less congested state of the brain and the pathways to and from it a lessened or perverted mentality results, though the mechanism be perfect.

What I have to say of adenoids is true of enlarged tonsils, with some minor modifications. Now how are you going to diag-

nose this trouble in your pupils? Enlarged tonsils are easily seen and recognized and attention is often called to them by frequent sore throats, gulping in swallowing, enlarged glands in the neck and a thick voice. Inspection will always verify your suspicions if you keep the tongue well depressed. On the other hand, a very large mass of adenoids will do their damage and yet show nothing through the mouth. Here you will have to seek a physician to corroborate your suspicions if in a backward child you find some or many of the following conditions: Persistent mouth breathing, more or less complete. A peculiar line from the angle of the nose to the angle of the lips giving a drawn look to the face. Possibly an irritative cough, more or less spasmodic, and a tendency to clear the throat and hack. A discharge from one or both nostrils. A tendency to nose bleeding with little or no provocation and a general apathetic look of the child in general. And if you feel below and back of the ears you may find in corroboration a chain of swollen hard glands, not large, nor painful—for adenoids very seldom cause any pain. If you have a backward child with this symptom-complex, refer it to a competent physician, who will verify the diagnosis by a digital examination, and if up to date will advise their removal. Many a dumb child has been proven more than ordinarily bright by the comparatively simple and safe operation of removal. And what I have written applies with equal force to obstructive conditions in any of the head passages, the effect produced being rather more than proportionate to the disturbing cause. I know of no way of forcibly illustrating the facts I have laid down better than to ask you if you care to imagine yourselves as trying to study with your head stopped up with a cold. You simply can't do it. You will get part and lose part, and more likely get less and lose more the harder you try. I am, I think, safe in saying you would all be highly indignant to be classed as dumb for not doing what your inmost conscience tells you to be an impossibility under such conditions. And yet, in the past, thousands of children have been dubbed dumb because they were handicapped in varying degree by exactly the same physical hindrance in a chronic type that the cold in the head gives in an acute form. Such children are pseudo-atypical in the truest sense—the last and reflex phases are sound, but they are thwarted in their action by the links ahead.

(*To be continued.*)

LEGISLATION FOR NURSES IN NEW YORK STATE.

By N. D.

On Nov. 13, 1913, Mrs. Stevenson, the President of the New York Nurses' Association, gave a very interesting talk in regard to the proposed new law for nurses to about 150 nurses at the University of Buffalo.

Mrs. Stevenson said that the problem of the nurse may be considered from the educational, ethical and economic point of view. As far as the ethics are concerned the needs of the patients, and not their bank account, should determine the kind of nursing. To-day the rich and the poor get the best care and treatment; only a few of the other classes receiving adequate treatment.

The economic side is not the province of the nurse, but of the state. The state to-day takes care of its dependent poor and unfortunate, and it does not send the poor nurse or the correspondence school nurse to care for them; it demands and accepts only nurses of the best class.

Nursing as an occupation is as old as there is any history of the world. The generic meaning of the word nurse signifies the care and nourishment of the sick and injured, and any woman so inclined could do any kind of nursing. In the past, and before nursing made the rapid strides it has in the last 25 years, any woman was capable of the care of the sick; but the old order of things has changed.

Florence Nightingale is mostly commended for the work she did in the Crimean War; but it is the constructive work she did in establishing a Training School with the money given her for service that should be of most interest to nurses, and it is through the training school that a gateway will be opened to the elevating of the nursing profession.

There are some poor nurses who have graduated from a Registered Training School and are registered. There are also

some very good nurses who have not graduated from any Training School. These women would be given a definite place under the waiver, and in the future under the new law it would be impossible for such conditions to exist. It must be remembered that it is the women of this profession who have raised the status of nursing above the Sairy Gamp type of nurse, and it is the women who must work to keep it up and to keep pace with the other professions. It is no more than fair to the woman who gives so much of her time and energy, and who makes so many sacrifices to spend two or three years in a Training School, to protect her and give her a definite place and position. The ultimate aim of all professions is to establish a definite educational standard, and why should the nurse be ignored in this regard? It is certainly not because it is not needed, for wherever they are placed the nurses are carrying heavy responsibilities.

At the New York State Nurses' Meeting held at Niagara Falls in October, Dr. Schaefer of the Buffalo Health Department paid high tribute to the school nurses of Buffalo, and said that he hoped that the end of another year would see 25 public school nurses in his city.

The public health law, which goes into effect soon, will give the Commissioners of Health of any part of the state power to employ Public Health nurses, as is necessary for the poor. They will work under the health officers. Nurses who occupy a position of such interest to the public must be women who are graduated from a Registered Training School. Their duty is to teach as well as to care for, and they must be from a school that is under some uniform control. If the public poor are so well protected, it seems only fair that the general public should have some protection, too. As it is to-day, there is no way to differentiate between a correspondence school nurse and a graduate of a first-class hospital until, in many cases, it is too late. Even if the patient suffers no physical harm, the profession of nursing, in most cases, has received a setback that it will take several competent nurses and much time to counteract. If they do not need a trained nurse —just an attendant—why could not these women care for this class of patients as attendants and not as trained nurses?

As conditions are to-day anyone with or without a training of any kind can go out, call herself a nurse and demand the wages of a trained nurse, and the general public has no means of knowing anything of her ability, and no redress.

When the first nurses' bill was agitated it was suggested by many prominent people that a very broad bill be introduced and tried for a few years—the same as the bill for physicians, public accountants, etc.; then after a practical application the weak points could be determined and the bill changed to meet the necessary demands. It was felt at this time that the schools should be under some central head, and after due thought and deliberation it was decided that no better selection could be made than the Regents of the state, who controlled all other educational institutions. On the advice of the Regents the bill of 1902 demanded that all nurses should be graduated from a registered school which should be under supervision, as skill and knowledge in this case meant life or death.

The Regents determine the weakness of the statute, and to-day it is permissible—not obligatory or mandatory. It is felt that now, for the good of the profession and of the Training School, the time has come to give greater protection. In 1911 Dr. Darling recommended that registration be made compulsory, and in 1912, at the Utica meeting of the State Nurses' Association, this question came up. A committee was appointed and an amendment to the present bill was drawn up. This was submitted to and approved by the Regents and the Association. This bill has nothing to do with the educational requirements of the prospective pupil, which will remain as they are and have been. The new proposed law will affect them only indirectly by bringing to our hospitals more pupils, and in many instances a better class, as it will close the doors of the schools which are now turning out thousands of so-called graduate nurses every year, or will allow them to send them out only as attendants, with no power to call themselves nurses; and they will have had a training that fits them to be attendants, and as such will find a recognized place in the care of the sick and helpless. There is a place for both; the difference would be in the kind of service and the compensation.

There was much discussion as to the waiver, many considering it too broad, but it was left as first submitted—to protect and include all women who are now in the work—feeling that the main object was to protect the profession of the future, in-

sisting that the nurses of the future take a course in a Registered Hospital.

This new bill does not prohibit any person caring for the sick, but does prohibit their caring for them as nurses, forcing them to care for them under their true name of attendants. The waiver in the bill is very broad and reads as follows: "A waiver will provide for the registration of all who are now engaged in nursing, without examination, except for practical nurses who have had less than 5 years' experience, such nurses being required to pass a practical examination only, this waiver to be in effect for three years from the passage of this act."

The opposition to the word nurse was bitter, but it is felt that that is the vital point. It was said many times that this was a generic word and has always been used. This is true, but in the old days there was no thought or means of training women, and if this is true of the word Nurse, is it not also true of the word Doctor, Physician, Pharmacist, etc.? Conditions of everything have changed and advancements of every kind have been made—why should not the nursing profession advance and avail itself of the right to have a definite standard and place, and who is better able to determine what that place shall be than the women who have been in the profession for years and the state education department? After the bill of 1913 had been brought up many times and all the opposition seemed concentrated on the word Nurse, it was decided to amend that part to read Registered, Graduated, Trained, or Certified nurse. All opposition of correspondence schools was immediately withdrawn and it took a member of the Legislature only a moment to point out that the word Qualified could just as well be used by the schools. So while it was felt that the amended bill was of little benefit, an endeavor was made to have it passed, as it would act as an entering wedge toward further legislation.

The bill of 1913 was a question simple and momentous: "Who is a nurse?" and "What is our obligation to the sick?" Education is essential, and the people must be educated to demand only the educated nurse as they were educated to demand only the educated physician, pharmacist, dentist, lawyer, etc.

At the close of the meeting a rising vote of thanks was tendered Mrs. Stevenson for making the situation so clear. Some questions were asked and answered, the principal one being in regard to the penalty attached, which was read as it had been presented in the bill. All nurses present promised to help as much as possible when the bill is again presented.

ENGLISH NURSES SCARCE AND OVERWORKED.

THE *British Journal of Nursing* calls attention to these facts:

It was stated by a nurse at inquests held at Camberwell recentlly on two aged persons at Newington Workhouse, that there was only one nurse at that institution to 112 aged patients.

In returning verdicts of "Accidental Death," the jury added the rider: "We consider that there should be more nurses for the elderly inmates of Newington Workhouse."

Is it a wonder that we so constantly hear of overstrain and a shortage of nurses? Many Boards of Guardians are at their wits' end for efficient nurses. They simply can't be got. We have spoken with several country infirmary nurses recently. The following are the reasons advanced: Monotony of work; impossibility of doing the work thoroughly for lack of sufficient help; bad tone and lack of discipline in wards; longing for change; seven-day working week; tired out and dispirited; down grade of nursing profession; abuse of women in newspapers; and bother about the Insurance Act.

"He's got the foot and mouth disease." "Never heard of it; what's it like?" "Whenever he opens his mouth, he puts his foot in it."—Houston Post.

Some of our farmers have commenced butchering hogs, Mr. J. O. Polly and Mr. U. M. Girder being among the number.—Adair County (Ky.) News.

HOW TO ENJOY YOUR MIND.

By Dr. Frank Crane.

There is one source of pleasure most of us neglect. It is always with us, always "on top," so to speak, and if we knew the art of using it rightly it would save us in many ways.

I mean one's own thoughts.

How much downright enjoyment do you get from your own thoughts? As a matter of fact, are you not in the habit of running away from them? When you are left to your own resources are you not bored, wretched and lonesome? Can you appreciate the feeling in the old verse of Edward Dyer?

"My mind to me a kingdom is;
Such present joys therein I find,
That it excels all other bliss
That earth affords or grows by kind." . . .

How extensive is the thought-realm! The empire of Great Britain "upon which the sun never sets," is a small spot compared to it. For my thoughts embrace not only this world but the star-worlds, they roam heaven and hell, they are in Patagonia, Peru, ancient Rome and modern Chicago.

How quick and supple they are! They can beat Puck in his flight around the world. I can think of Julius Cæsar, and in a trice he can be made to disappear and be replaced by Li Hung Chang. . . .

Isn't it singular that a creature with a power like this should get world-weary and sigh for something to amuse him? Is it not curious that we so dread to be left alone with our thoughts? We complain of being left alone with this magician, miracle-worker, cinematograph, phonograph and winged Mercury! It must be that discontent is inground in human nature. . . .

"Thoughts are things," they are realities. . . . When there is no mental perception of any object, the object itself does not exist—for us. Without the presence of the thinker the world is dead, even uncreated. Without the hearing ear Niagara does not roar, nor the sea boom upon the sands, nor birds cry in the forest. Were there no seeing eye there would be no colored sunset, no redness of the rose, no beauty in the cheek and lip of youth. With no sense of smell there would cease to exist the whole world of perfume, the odors of the lilac and jasmine would be no more, the aroma of coffee and savory food would vanish.

For it is only as human thoughts that all these things have their being. . . .

If you find yourself with an idle hour, suppose you are waiting for a train, or are left alone in the house, or are on a solitary journey, or in any other way have "nothing to do, nothing to read and nothing to play," then deliberately set to work observing your thoughts. Play with them, study them.

Note, for example, how one thought brings on another, the associative or suggestive power of one over another. Try to reverse the process, and see how you came to be thinking of the present object. You are thinking of your broken eye-glass; a few minutes ago it was the emperor of Japan; how did you come to go from one to the other? You discover the process was this: You remember seeing a man opposite you in the car wiping his glasses, which called to your mind the broken glass in its case in your pocket; why did you remember this man? Because he looked like your neighbor Smith; Smith was suggested by a joke some one told you concerning the many Smiths in the city directory; this some one was your uncle David; he is a teacher in a university; the last time you were there you saw some Japanese students; these students were called to your mind by reading about the death of the Japanese emperor; and so the curious bridge was built from the oriental monarch to the broken eye-glass.

Again, practice controlling your thoughts, driving them in some certain direction.

Lay down certain principles to govern your thinking, and stick to them. For instance, determine to drop, like a hot poker, any thought that makes you miserable, weak, depressed, wicked or afraid. . . . Welcome the flower, angel, prosperity, success thoughts.

You have no conception how much this has to do with your health, fortune and happiness. Do you know that just by learning the art of thought-choosing and thought-dodging you can work wonders?

As to health, the power of mental suggestion is well known. By stern control of one's thoughts, keeping them off the subject, one can cure nine diseases out of ten. There are some who make this law a part of their religion, and it works well. Any in-

telligent physician will tell you it is founded on fact.

On the contrary, if you have a slight ailment, and allow black, fearsome and alarming thoughts to flock to it, like evil birds, you are pretty sure to develop serious trouble, which by a little sensible thought-control might have been avoided.

The same law holds good in your dealings with people. Think success-thoughts and you are ten times likelier to succeed than if you harbor failure thoughts. Allow your mind to run upon how awkward, ignorant, small, weak and poor you are, and people will walk on you as naturally as if you were a door-mat.

So if you wish to be graceful, let images of grace, of graceful people, deeds and words, circulate in your mind. Study the kind of persons you admire, in actual society and in books, and recall them often and you will grow to be like them.

It is your thought of yourself that defeats you. It is your thoughts that make you or undo you. . . .

Foul and wicked thoughts nursed in the mind poison the whole character, and if you can only sit and think of kindness, courage and beauty, you are doing much to help along the world.

No thought is ever lost. The dye of it stains the mind.—*Woman's World.*

Questions and Answers.

The following answers are not "official." They are prepared for the editor.

UNIVERSITY OF THE STATE OF NEW YORK, 20TH NURSES EXAMINATION.

MATERIA MEDICA.

Wednesday, June 25, 1913—9.15 a. m. to 12.15 p. m., only.

Answer 10 *of the following questions. Each complete answer will receive* 10 *credits. Papers entitled to* 75 *or more credits will be accepted.*

1. What is the dose of quinin when used as a tonic?

Ans. From 1 to 4 grains.

2. What are the first symptoms of over use of iodoform?

Ans. Headache, anorexia, insomnia, rise of temperature, feeble and rapid pulse, restlessness, passing on to the "iodin rash" on face and limbs, stupor, retention of urine, delirium, collapse.

3. What is the difference between a solution and a tincture? Which is the stronger?

Ans. A tincture contains alcohol as a solvent, and is weaker than the corresponding fluid extract, or solution.

4. Define (a) motor excitants, (b) cerebral stimulants, (c) antispasmodics.

Ans. (a) Drugs or measures that arouse muscular activity. (b) Drugs or agents which stimulate activity of the brain. (c) Agents allaying or relieving convulsions or spasmodic pains.

5. Write the table of apothecaries' weight.

Ans.

Apothecaries' or Troy Weight.

lb.		℥		ℨ		℈		gr.
1	=	12	=	96	=	288	=	5760
		1	=	8	=	24	=	480
				1	=	3	=	60
						1	=	20

6. State the dose of Fowler's solution of arsenic. When should it be given?

Ans. Two drops, gradually increased to 30 or 40 drops. After meals.

7. Why do solutions need to be frequently renewed?

Ans. Slow chemical changes may produce clouding and precipitation. Evaporation changes strength of solutions.

8. What change occurs in tinctures and fluid extracts if they are allowed to become old?

Ans. The menstruum evaporates, changing the strength of the solution. With the loss of alcohol from a tincture there is a loss of its preservative action and the remaining substances undergo more or less decomposition.

9. Explain the meaning of "drug idiosyncrasy."

Ans. A peculiar condition of the patient by reason of which the usual standard doses of a drug produce a much greater or a much diminished effect as compared with the same dose administered to the average person.

10. Mention a marked feature of lead poisoning.

Ans. A blue line on the free edges of the gums.

11. What are the active ingredients of Seidlitz powders?

Ans. Rochelle salt, bicarbonate of sodium and tartaric acid.

12. If the adult dose of a drug is 12 grains, what is the dose for a child 4 years old?

Ans. Three grains.

13. How many grains to the ounce are required to make a 1% solution?

Ans. Five, or more exactly, 4.8.

14. Why is atropin sometimes given with morphin?

Ans. Atropin antagonizes the effects of morphin on respiration and heart.

15. Give the meaning of *each* of the following abbreviations: (a) ung., (b) O., (c) s. o. s., (d) gtt., (e) pulv.

Ans. (a) Unguentum, or ointment. (b) Octarius, or pint. (c) If necessary. (d) Gutta or guttae, drop or drops. (e) Pulvis, or powder.

OBSTETRIC NURSING.

FOR FEMALE NURSES

Wednesday, June 25, 1913—9.15 a. m. to 12.15 p. m., only.

Answer 10 of the following questions. Each complete answer will receive 10 credits. Papers entitled to 75 or more credits will be accepted.

1. Compare the true pelvis with false pelvis.

Ans. The false pelvis is the upper or greater pelvis, lying above the ilio-pectineal line; the true pelvis is the lower or lesser pelvis, lying below this line.

2. Name the organs in the pelvic cavity and show by words or diagram their relative position.

Ans. Beginning with the ventral side, the bladder and urethra with the lower portions of the ureters, the uterus with the two Fallopian tubes stretching to the right and left sides of the pelvis and the two ovaries situated below the extremities of the tubes, the rectum traversing the dorsal portion of the pelvis, the vagina enclosing the lower part of the uterus and lying on the ventral side of the rectum.

3. What is the advantage of the sutures and fontanels as found in the skull of the fetus?

Ans. They allow a certain amount of crowding and overlapping of the cranial bones, thus permitting the "moulding" of the head during labor.

4. Describe the structure and the function of the umbilical cord.

Ans. A long cord-like organ, irregularly roundish in cross-section, enveloped in a sheath from the amnion, and enclosing a gelatinous substance called Wharton's jelly, in which are embedded the umbilical vein and two umbilical arteries, with vestiges of certain earlier fetal structures. Its function is to communicate between the placenta and the fetus.

5. What are the nurse's responsibilities in regard to the cord from the time it is severed till it falls off?

Ans. Observe all the rules of asepsis and antisepsis that would be followed in the case of any other wound. Apply the dressing ordered by the doctor, and avoid contaminating it with the urine or feces, or with the water used in the bath. If dressings become soiled or badly soaked they should be renewed.

6. What advantages might be gained from the application of a breast binder?

Ans. It is believed by some that it checks the secretion of milk. It is recommended also in the early stages of mastitis.

7. What advantages may be gained from the application of an abdominal binder?

Ans. It is claimed by some that it favors the involution of the uterus and helps to restore the figure to its former proportions. Before term it may help to sustain the gravid uterus and relieve the patient from bearing-down pains and similar inconvenience.

8. Define fetus, viability, lactation, involution.

Ans. The child in utero after the end of the third month. Ability of the infant to live after birth. The secretion of milk, or the period during which milk secretion continues. The retrogressive changes by which the uterus after labor is restored to its usual weight and condition.

9. What may the nurse do for the relief of varicose veins during pregnancy?

Ans. Regulate the bowels. Keep patient sitting or, better, lying down, as much of the time as is convenient. Apply elastic stocking or flannel bandage, not too tightly. Provide a compress and bandage for emergency use in case of ruptured vein, and show patient how to apply them.

10. Give *three* characteristic signs of the beginning of the second stage of labor.

Ans. Rupture of the bag of waters. Bearing-down pains, with strong action of abdominal muscles. Increased pressure on the rectum, with stretching of the perineum.

11. What may the nurse do for the relief of cramps in the thighs during labor?

Ans. Straighten the legs and rub them briskly.

12. Why is crying necessary for an infant immediately after birth?

Ans. It shows the child's reflex nervous mechanism is in working order, that the child is breathing deeply, and it helps to clear the air passages of mucus and liquor amnii.

13. How should the soiled napkins of an infant be cared for?

Ans. They should be carefully inspected by the nurse and she should be prepared to report to the doctor as to the number of stools per day and the intervals at which they are voided, their quantity, consistency, color, odor, presence or absence of blood, and any abnormal or unusual characteristics. In some cases the napkins are to be saved for the doctor's inspection. Finally, they must be thoroughly washed and rinsed until clean, and well dried before using again.

14-15. Discuss the nursing care of a case of eclampsia as regards (a) quiet, (b) nourishment, (c) elimination.

Ans. (a) Patient should be kept as quiet as possible, and all causes of excitement or alarm should be carefully guarded against. No one should be in the sick room except those actually needed to attend the patient. (b) A strict milk diet is usually given while there is albumin in the urine, or as long as edema of limbs and face persists. Nothing should be given by the mouth while the patient is unconscious. (c) Elimination must be thorough and practically continuous until the case is relieved. It is secured by free use of cathartics, hot baths and wet packs, diuretics, and sometimes salt solution by hypodermoclysis. The patient is usually encouraged to drink water freely.

UNIVERSITY OF THE STATE OF NEW YORK, 20TH NURSES' EXAMINATION.

GENITO-URINARY NURSING.

FOR MALE NURSES.

Wednesday, June 25, 1913—9.15 a. m. to 12.15 p. m., only.

Answer 10 of the following questions. Each complete answer will receive 10 credits. Papers entitled to 75 or more credits will be accepted.

1. What is the first manifestation of syphilis?

2. How would you give a mercurial vapor bath?

3. What is strangury?

4. Define bubo.

5. What care would you give a patient after circumcision?

6. Define genito-urinary.

7. What is inflammation of the bladder called?

8. What is loss of power to control the voiding of urine called?

9. What important point should the nurse remember when caring for a patient who wears a truss for the support of hernia, but who is not confined to the bed?

10. Locate the perineum.

11. What preparation would you make for an operation on the bladder?

12. If a hemorrhoidal hemorrhage occurs what should the nurse do till the arrival of the doctor?

13. What is the incubation period of gonorrhea?

14. Define chancroid.

15. By what symptoms is gonorrhea characterized?

UNIVERSITY OF THE STATE OF NEW YORK, 20TH NURSES' EXAMINATION.

DIETETICS.

Thursday, June 26, 1913—9.15 a. m. to 12.15 p. m., only.

Answer 10 *of the following questions. Each complete answer will receive* 10 *credits. Papers entitled to* 75 *or more credits will be accepted.*

1. Define (a) chyme), (b) chyle.

2. At what age may a healthy child begin to digest starches?

3. In what organs and by what enzymes are starches digested?

4. Mention *three* results obtained by the cooking of food.

5. Give the freezing and the boiling point of (a) the Fahrenheit thermometer, (b) the centigrade thermometer.

6. Make a list of *five* tissue-building foods.

7. What does the term "top milk" mean?

8. When 10% top milk is used, what is the relative proportion of fat to proteid?

9. Outline the daily care of an ice box.

10. Contrast the cooking of meat in making broth and in broiling.

11. Describe the care of milk in the home. Give reasons for your answer.

12. How would you make funket? State the source of rennet.

13. Give the general rule for making cream vegetable soups.

14. Tell how you would make cocoa and give your reasons for thus making it.

15. Name *two* diseases in which carbohydrate food is limited.

Have your answers to these questions ready for comparison with the answers to be given in a later number of THE GAZETTE.

TECHNICALITIES.

THE ODOR OF IODOFORM.—The odor of iodoform may be removed from the hands by the application of mustard. Moisten the hands with cold water, place a small quantity of dry mustard in the palm, rub it well over the hands, and wash off with soap and water. The odor can be removed from utensils in the same way, with the exception that the mustard paste should be allowed to remain on for several hours; a solution of sodium hydroxide will also answer the purpose.—*The Hospital.*

MOVING PICTURE MICROBES.—Conditions found in the average small theater of today are such as make these popular places of assemblage perfect incubators for and disseminators of disease germs. Lack of ventilation, which is the common defect found, means an air content fouled with body exhalations and ill-tempered by body heat radiation, conditions which make the presence of an infection bearer a very distinct menace, not only to the immediate assemblage, but also to others which follow in the succeeding few days. Proper ventilation will very materially minimize this "menace of the movies"—one is much less likely to pick up infections in fresh air than in stagnant, overheated, foul air.—*Chicago Sanitary Bulletin.*

TAKING OUT BLOOD STAINS.—When you have blood on your hands, first wash them in pure water. Using soap at first is a mistake, as soapy water does not dissolve blood rapidly. Clear water and a nail brush should come first, soap next. Blood on a handkerchief or cloth should also be first washed in cold pure water.—*Od. Quarterly.*